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**SUMMATIVE EVALUATION OF
PHASES 1 AND 2 OF THE ELIB
INITIATIVE:
FINAL REPORT**



ESYS

Summative Evaluation of Phases 1 and 2 of the eLib Initiative: Final Report

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ESYS

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EXECUTIVE SUMMARY

This Executive Summary presents high level findings from the ESYS Summative Evaluation of Phases 1 and 2 of the Electronics Libraries initiative (eLib), undertaken for JISC under contract PROC/0101.

eLib was established in response to the work of the Libraries Review Group of the UK HEFCs, chaired by Professor Sir Brian Follett, which reported in 1993. Phases 1 and 2 of eLib had a budget of £15 million over 3 years, and funded almost 60 projects addressing a wide range of issues in information provision. The main aim of the eLib Programme has been to engage the higher education (HE) community in developing and shaping the implementation of the electronic library.

The evaluation found that eLib was an appropriate response to the issues it sought to address and was successful in achieving most of its ambitious aims. It achieved valuable results within its different programme areas and succeeded in engaging the broad HE community as it set out to. The success of eLib has also been apparent in building relationships between communities and in developing the skills base. Important practical experience of electronic methods and associated issues has been gained which will be valuable to the HE community in the future.

eLib contributed added value because it provided the following:

- coherence - eLib gave co-ordination and structure to the development in this field.
- comprehensiveness - eLib allowed a wide range of different models and approaches to be tested. This range, which is unlikely to have been covered without eLib, allows much greater confidence in selecting approaches for future development.
- coverage - eLib ensured that a much wider range of higher education institutions (HEIs) were involved with the development of electronic techniques than would otherwise have been the case.
- creativity - eLib engendered a creative tension from the competitive calls for proposals.
- analysis - through the supporting studies, the formative evaluation and the dissemination process, eLib was able to make sense of the different successes and failures.
- practical experience - eLib ensured that the library community had wide exposure to the implementation of electronic techniques.
- dissemination - eLib ensured that lessons learned were widely shared throughout the sector avoiding unnecessary duplication of effort.

Contacts during the evaluation have confirmed that eLib's impact has been highly significant for those involved in the UK and international library community. It tackled important issues in the broader HE sector and has also had positive impacts on publishers and other commercial organisations.

Four key questions were posed for eLib at the start of the evaluation. The answers to these questions summarise the key findings of the evaluation.

1) Did the Programme supply sufficient added value to justify the allocation of JISC resources - did eLib provide benefits which would not have happened otherwise ?

Yes. Given the state of knowledge at the start of the Programme it was important to undertake a programme of some description. Hindsight confirms this and in most cases suggests that the correct programme strategy was adopted. It is true that a number of developments would have occurred without eLib, driven by factors such as the rapid growth in general use of the Internet. All stakeholders in the HE information community have been affected by these developments and have had to respond. eLib represents an important part of the response. It has added value by balancing a comprehensive treatment of the issues with an approach which has directly involved a large proportion of the community. In doing so, it has brought a practical understanding of the issues to many key players which will allow future challenges to be met more effectively.

2) Did the adoption of a national, managed programme provide benefits compared to a more fragmented distribution of the funds to HEIs to pursue their own ends - was the right approach adopted ?

The choice of a national, managed programme has ensured that eLib provided coherent coverage of the issues facing the sector which would not have been achieved otherwise. Without the JISC structure and the co-ordination of the Programme Office, many of the benefits related to comprehensive coverage of the issues, improved understanding and preventing duplication of effort would not have been achieved. Taking eLib Phases 1 and 2 in isolation, a different programme balance with a much smaller number of large projects might have provided more sustainable services. In fact, the broad approach of Phases 1 and 2 has led to a smaller set of more concentrated activities in eLib Phase 3.

3) Given the structure which was adopted for eLib, was the Programme conducted effectively within this framework ?

The management of eLib was primarily the responsibility of FIGIT / CEI, the eLib Programme Office and the JISC Secretariat. Although the management was stretched by the large number of projects and the complexity of consortia, the Programme has been conducted effectively. Management at project level has not been explored in detail, but the evidence is that the number of project difficulties related to poor management has been small.

4) What has the impact been on the different stakeholder communities ?

The impact on the HE library community has been very high. The positive view of eLib expressed by the library community should not be dismissed as an insider view - had the opportunity represented by eLib been wasted, the same consensus would not have been found. The very strong international support for the Programme also indicates a high regard among peer groups.

Impacts on other stakeholders have been lower, although there have been a number of useful benefits. Publishers had to move on in parallel with eLib for commercial reasons, but through their eLib involvement have developed more effective working relationships for the use of electronic services in HE and have gained very valuable information on user profiles. eLib's impact on the academic community has been slower because its work addressed a much broader topic where the pattern of change as a whole is slower. Nevertheless, the importance of this work is becoming increasingly clear to the whole HE community.

1. INTRODUCTION

This document is the Final Report of the Summative Evaluation of Phases 1 and 2 of the eLib Programme, undertaken for JISC by ESYS Limited under contract PROC/0101. An overview of this report is available as a separate document (ESYS-99239-RPT-05_ES).

ESYS limited is a consultancy company which brings experience of undertaking and evaluating technology applications programmes in a number of fields, particularly space and defence. This evaluation therefore takes an independent view of the programme from outside the HE library sector.

1.1 Background

The Electronics Libraries initiative (eLib) was established in response to the work of the Libraries Review Group of the UK HEFCs, chaired by Professor Sir Brian Follett, which reported in 1993. Phases 1 and 2 of eLib had a budget of £15 million over 3 years, and funded almost 60 projects addressing a wide range of issues in information provision. The main aim of the eLib Programme has been to engage the higher education (HE) community in developing and shaping the implementation of the electronic library.

The Programme has been managed by JISC, mainly through the Follett Implementation Group for IT (FIGIT) and its successor the Committee for Electronic Information (CEI), now the JISC Committee for Electronic Information (JCEI).

The JCEI now oversees the development of the Distributed National Electronic Resource (DNER) which includes Phase 3 of eLib. The DNER also includes the electronic information services available on JANET, the National Electronic Site Licensing Initiative (NESLI) and the JISC/NSF Digital Libraries Initiative (DLI). JCEI has a number of co-ordinators to oversee its programmes of which the eLib Programme Office is an example based at the University of Warwick.

1.2 Context

1.2.1 General

eLib has taken place against an unprecedented growth in the availability of electronic information services. The period between The Follett Report in late 1993 and the end of Phase 2 of eLib in 1998 has seen the transition from electronic information as a specialist domain to one which has entered general currency. In parallel, capabilities for a given cost have increased dramatically in many relevant domains. These include:

- public access to the Internet
- public availability of html and multimedia browsers
- high bandwidth availability
- high capacity information storage
- multimedia capabilities
- scanning and OCR
- printing

The most far reaching change during the course of eLib has been the effect of electronic information services in transforming many aspects of everyday life. In 1993 it might have been possible to dismiss the impact of electronic information services on libraries as marginal. This was no longer the case by the end of 1998 by which time the impact on many areas, including the concept of universities themselves, could not be ignored. It was possible to identify the nature of many of these developments in the early 1990s and to appreciate that they would have profound implications for the provision of information in higher education.

1.2.2 Resulting issues for the HE sector

The continuing developments in access to information are now a major strategic issue for universities, questioning the very rationale for certain aspects of traditional university provision. Particularly important issues concerning the role of communications and information technology (C&IT) in higher education and research which will strongly influence the direction the JISC will take over the coming years are¹:

- Potential Benefits: C&IT continues to grow in importance in the work place and society at large. There are opportunities to reduce costs and increase efficiency through innovative use of C&IT in learning and teaching, management and administration and in support of the research process
- Access to Education: there are pressures to increase participation in education from all sectors of society, especially to meet the needs for lifelong learning. C&IT has an important facilitating role in this process through the provision of access to information about higher education opportunities and flexible learning
- Globalisation: the global nature of the Internet provides opportunities for foreign competition for UK students and for UK HEIs to attract more students from overseas. It also enables the JISC to change the way it facilitates access to information resources, utilising the greater opportunities for international collaboration
- Strategic Management: a wider, more strategic vision of the benefits that C&IT offers higher education, and how the benefits can be realised, is required. Training and support for staff and students in C&IT skills is an essential precursor to greater development of opportunities

The impacts of eLib are mapped to these issues in Chapter 6.

1.2.3 Related programmes and organisations

The eLib Programme was one of a number of initiatives which aimed to tackle the application of C&IT to higher education. The boundaries of eLib are not clearly defined and there are many overlaps and interrelationships with projects and programmes in related areas. Figure 1.1 illustrates interrelationships which form the context for this evaluation.

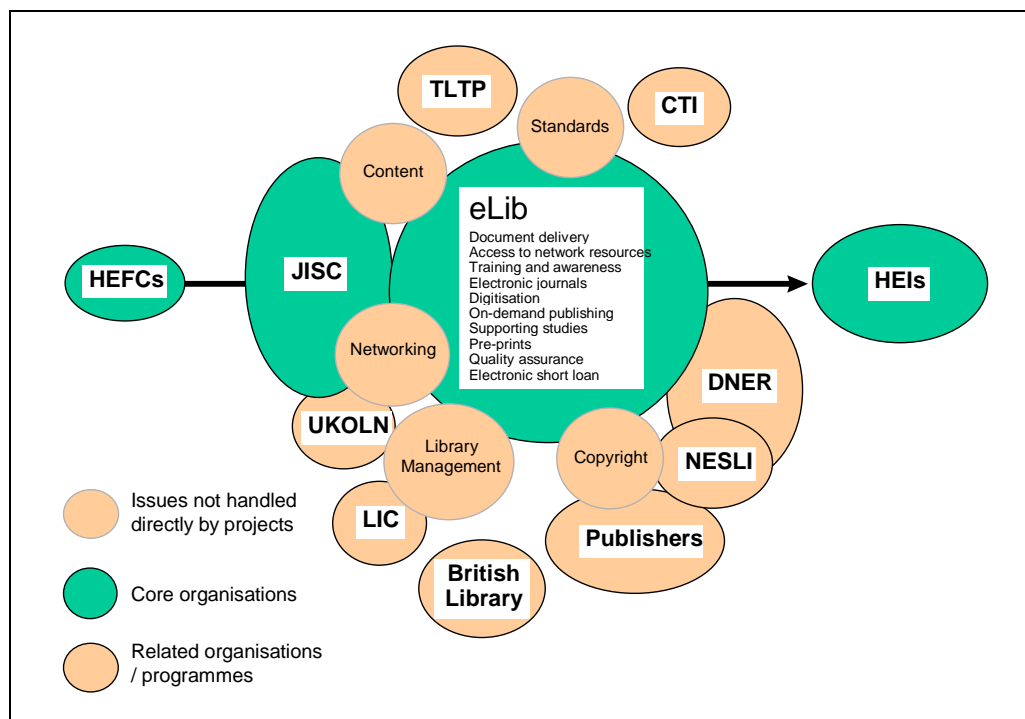


Figure 1.1: eLib context

¹ JISC Strategy Review, Appendix B, Mike Tedd, 4 September, 1998

1.3 eLib objectives

eLib has addressed many of the strategic issues related to the provision of information within the HE sector. The expected outputs of eLib as expressed in the original call for proposals and categorised by the main areas addressed by the Programme², were as follows:

Electronic document and article delivery

- working services which will become self-standing within the period of the contract
- demonstration of benefits to libraries and end-users, and of means of maximising value for money from the higher education community's investment in libraries
- lower delivery price
- improved services

Electronic Journals

- projects which involve parallel publishing in traditional and electronic form of both prestigious, well established publications and low volume specialist journals
- promotion of new forms of electronic journals to show the possibilities beyond parallel publishing
- a small number of high profile refereed electronic journals (with no print equivalents) which capitalise on features that will only be possible in electronic form
- wider exploitation of methods of informal communication across the network eg bulletin boards, pre-print services
- significant space savings in HEI libraries resulting from the disposal of backruns
- easy access by researchers and students throughout the sector

On-Demand Publishing

- a small number of on-demand publishing models suitable for UK higher education
- collections of electronic materials which are available for customised publishing
- simple mechanisms for copyright payment collection (as appropriate)
- reduction in pressure on library materials

Training and Awareness

- demonstrable increase in the level of relevant knowledge and associated competencies among library staff and others responsible for the exploitation of networked information resources
- significant improvements in the quality of training provided to end-users by library staff and others through the development of more effective training techniques
- progress throughout the HE community in heightening awareness of the value of networked information resources and of their role in the development of alternative models of information provision

Access to Network Resources

- raise awareness of networked information resources, explore issues associated with running large scale services, and ensure community involvement in developments at national and international levels

Supporting Activities and Initiatives

- Issues include network access and tariffs, monitoring development of standards, feasibility study of arts and humanities datacentre, CURL database, retrospective conversion, integrated bibliographic databases, library management systems

It is important to note that the objectives of The Follett Report are broader than those of eLib and some were tackled through other initiatives. As a result, eLib must be judged primarily in relation to its own objectives. The eLib objectives themselves evolved from the areas specified in The Follett Report, particularly in the selection of areas for Phase 2³ work. The developments from The Follett Report can be summarised as:

² Annex A to JISC Circular 4/94: FIGIT Framework

³ JISC Circular 11/95: Electronics Library Programme (eLib): targeted call for new proposals

- The area of electronic journals was developed, particularly in the areas of pre-prints and quality assurance
- The area of imaging was added
- Electronic Short Loans was added as a programme area to complement the existing work on On-Demand Publishing

The evolution of the eLib objectives in relation to The Follett Report during the early part of the Programme is examined in more detail in the Tavistock Institute's policy mapping study⁴. This document was produced as part of the eLib formative evaluation process.

1.4 Evaluation objectives

The task of the ESYS Summative Evaluation of eLib has been to provide the following:

- review of the operation and management of the Programme
- analysis of the outputs and achievements of the Programme in relation to the original objectives
- assessment of the impacts, benefits and value of the Programme in a broader context
- identification of lessons learned
- recommendations for future actions

The key questions which can be posed for eLib are:

- did the Programme supply sufficient added value to justify the allocation of JISC resources - did eLib provide benefits which would not have happened otherwise ?
- did the adoption of a national, managed programme provide benefits compared to a more fragmented distribution of the funds to HEIs to pursue their own ends - was the right approach adopted ?
- given the structure which was adopted for eLib, was the Programme conducted effectively within this framework ?
- what has the impact been on the different stakeholder communities ?

The task of the ESYS Summative Evaluation is thus to judge the successes or otherwise of eLib in relation to the objectives set out for the Programme as a whole as well as for its major constituent parts. Making judgements about eLib in this way requires considerable care, for the following reasons:

- the objectives for the Programme were set against an informed view of the state of the art in 1992/93, but projects (and in some cases objectives) have had to adapt to rapidly changing circumstances, such as the rapid growth in Internet use
- the eLib Programme consists of almost 60 projects providing the required coverage of the topics to be addressed, but representing considerable diversity of approach
- eLib has been conducted in parallel with initiatives which address complementary or overlapping issues and whose relative contributions are difficult to unravel
- many of the aims of eLib are difficult to quantify including learning, mobilisation and catalytic effects to be achieved by pulling in many actors and organisations
- for assessments to be reasonable and lessons learned to be of practical value, the availability of hindsight needs to be handled carefully

It is important to recognise that an important aspect of eLib relates to the impact of the Programme as a whole. It is therefore not sufficient to base an analysis on the results of projects in isolation, a review of this type must also consider the impact and value of the unifying Programme element.

⁴ Tavistock Institute Policy mapping study - The set-up, operation and content of the Electronic Libraries Programme, October 1996
(<http://www.ukoln.ac.uk/services/elib/papers/tavistock/>)

1.5 Structure of the report

The structure adopted for this report in line with the three main areas of the evaluation is as follows (Chapters covering the main areas of the evaluation are shown in *italics*):

- Chapter 2: Methodology - an outline of the approach to the evaluation
- Chapter 3: Operation and management - evaluation of these processes including an assessment of the origins and set up of the Programme*
- Chapter 4: Outputs and achievements - evaluation of the Programme in terms of its major subject areas*
- Chapter 5: Impacts, benefits and value - assessment of the overall impacts of the Programme and whether these represent value for the investment*
- Chapter 6: Strategic observations - how the impacts of eLib address strategic issues for JISC and HEIs
- Chapter 7: Conclusions and recommendations

The logic of the report is expressed in Figure 1.2.

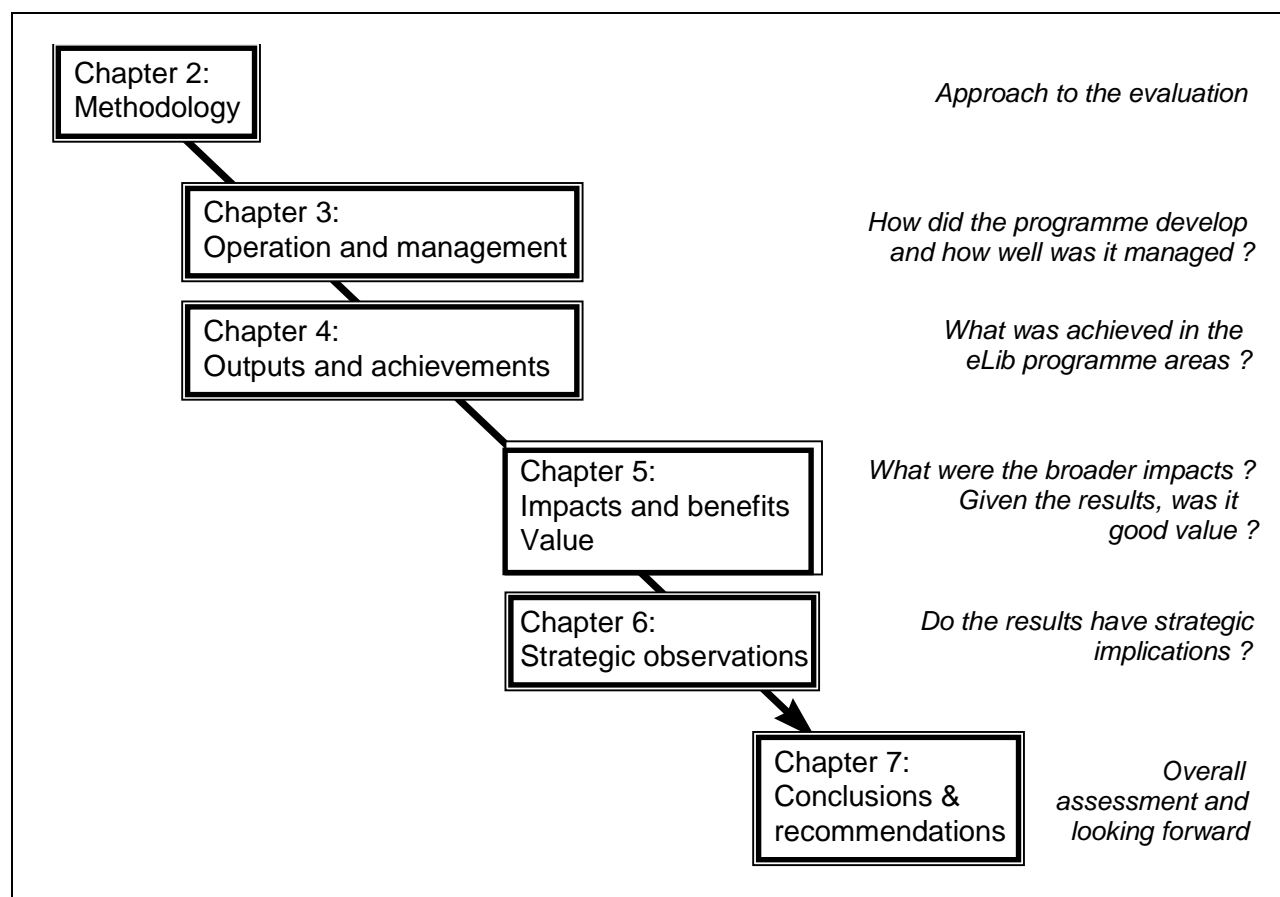


Figure 1.2: Logical structure of the report

1.6 Acknowledgements

This evaluation is a summative process which draws on the comprehensive material already produced within the eLib Programme. Such material, together with a series of interviews, are the main information sources for this report. The co-operation of those interviewed and the input from the different sources are gratefully acknowledged.

2. METHODOLOGY

2.1 Scope and terms of reference

The evaluation focuses on programmatic and substantive learning from the programme experience and consists of three areas of work:

- a review of the operation and management of the Programme including the lessons learned about the programme direction, programme steering and support for projects
- an analysis of the outputs and achievements of the programme in the light of its original brief and adaptation to changing circumstances and understandings
- an assessment of the impacts, value and benefits of the Programme, including indirect effects, spin offs, unintended consequences and in particular mobilisation and catalytic effects.

The findings from these areas are linked to recommendations for future actions, practices and policies.

This evaluation is ‘summative’, which acknowledges the extensive body of ‘formative’ evaluation which has taken place during the course of eLib. This document therefore seeks to provide a concise assimilation of the existing resources, supplemented by interviews with key figures involved in the Programme and representatives of the user community. The scale of eLib means that statistically significant samples of the community are beyond the scope of the evaluation and as a result, representatives have been selected in close consultation with the JISC Evaluation Working Group to ensure that all key areas are covered.

In making value judgements on a Programme of this type, it is important to state the background and perspective of the report’s authors. The evaluation team are experienced in the management, implementation and evaluation of Programmes of a similar scale and duration to eLib. They have experience of working in the higher education sector, but the majority of the programme experience is in the fields of space, defence and environment with an emphasis on applications and developments of new technologies. This provides the advantage of an independent, external view with implicit benchmarking against Programmes from other fields at the expense of some limitations in the analysis of detail.

2.2 Approach

The approach to the evaluation was set out early in the project in the Information Collection Plan and Evaluation Framework⁵, which was agreed with the Evaluation Working Group. This document set out the approach to the following aspects of the work:

- Evaluation context and scope
- Proposed methodology
- Outline evaluation framework
- Information collection plan
- Analysis framework
- Reporting structure

The strategy for the evaluation is given in Figure 2.1, while the methodology is given in Figure 2.2. The strategy shows the key elements of the evaluation and how these relate to both the sources of information and the evaluation outputs. The methodology shows how this has been undertaken in practice.

⁵ ESYS-99239-RPT-01 Information Collection Plan and Evaluation Framework, Issue 1.0, 14 September, 1999

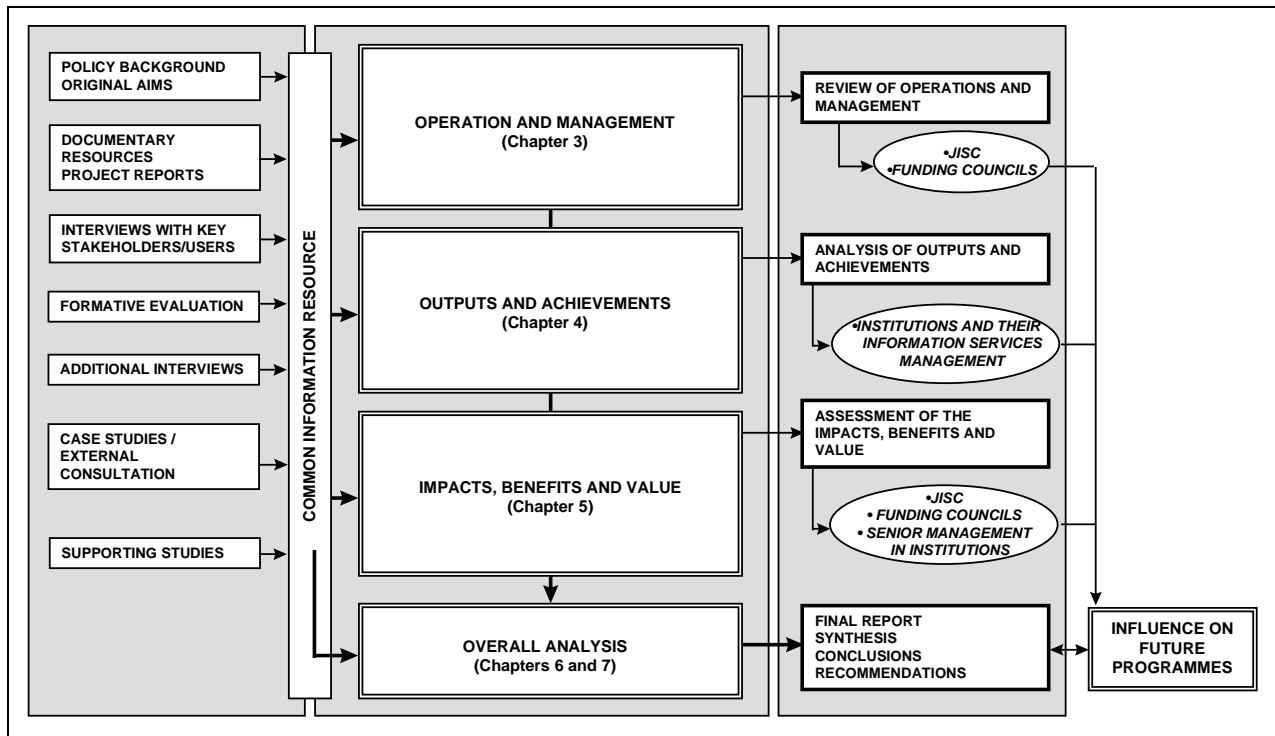


Figure 2.1: Evaluation strategy

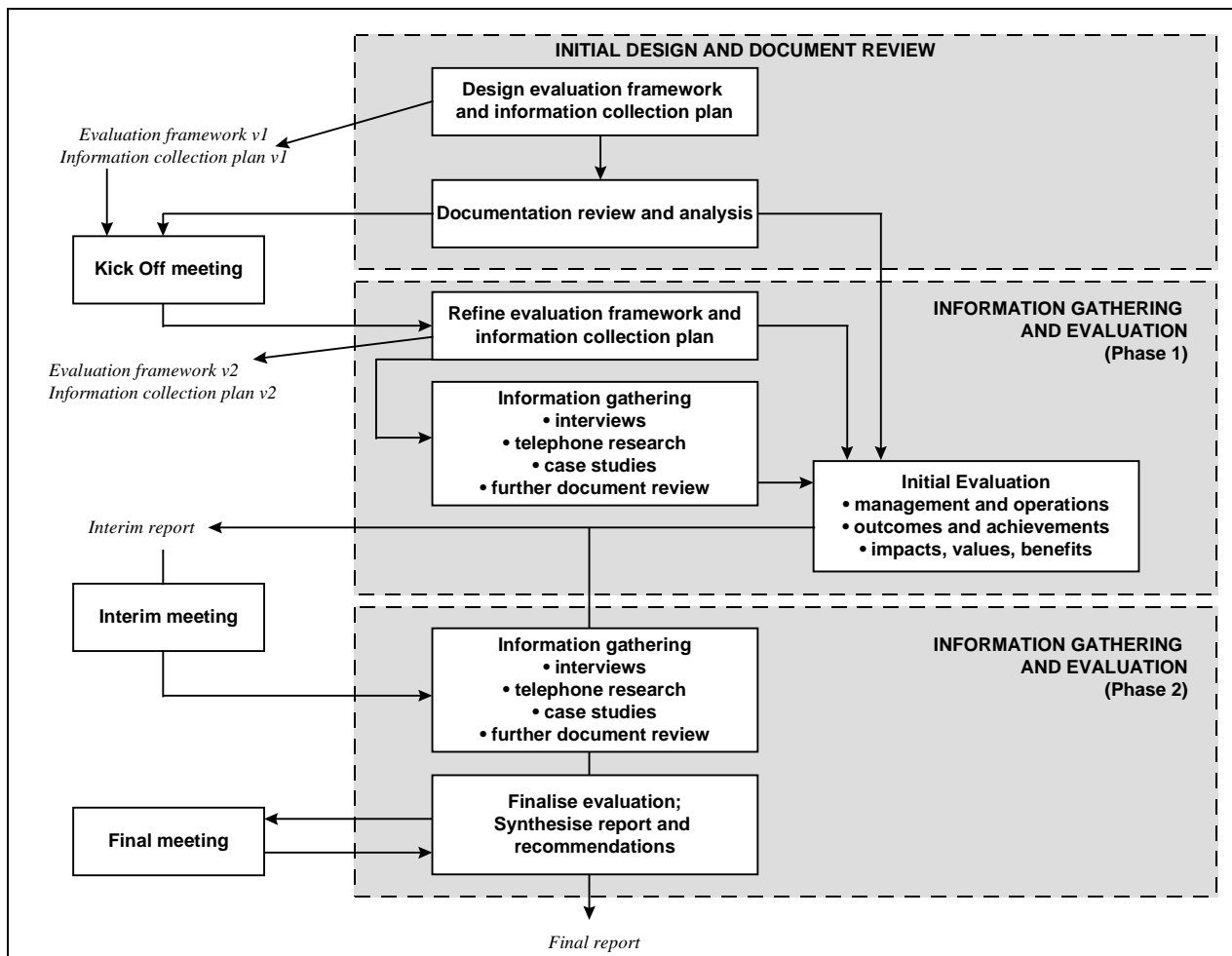


Figure 2.2: Methodology

2.3 Sources

A wide range of information has been analysed to form the basis of this evaluation. The key sources are listed in this section. The majority of the documents are available on-line through the JISC⁶ and eLib⁷ web sites. The approach to information gathering was specified in the Information Collection Plan which specified an agreed contacts list and other key sources.

2.3.1 Key reports

The defining document for eLib was the report of the Libraries Review Group, the 'Follett Report', which was published in December 1993.

2.3.2 FIGIT / CEI documentation

The documentation relating to the meetings of FIGIT and its successor, the CEI has been maintained at the eLib Programme Office. Meeting summaries are also available on-line from the JISC web site. This information documents many of the decisions made in the steering of eLib. The objectives of the Programme and of the Programme areas are documented in JISC circulars, particularly C4/94 (Phase 1) and C11/95 (Phase 2).

2.3.3 Project information

All of the eLib projects were required to produce annual reports and a final report. These reports are held at the eLib Programme Office and have been used to provide input for this evaluation. More detailed information on specific projects was gathered for the four case studies reported in Appendix C using a mixture of interviews and document review.

2.3.4 Formative evaluation

Phases 1 and 2 of the eLib Programme have been the subject of an on-going evaluation under the guidance of the Tavistock Institute. The primary objective of this evaluation work has been 'formative', ie to ensure that lessons learned during the course of the projects were fed back in time to be useful. This work has also led to the production of a number of reports which are important inputs to the ESYS Summative Evaluation. Key reports are the 1997 and 1998 summaries of annual reports and the policy mapping study which compared project activities against originally set objectives.

2.3.5 Interviews

In addition to the documentary sources on eLib, a number of direct contacts have been made with individuals involved in the development of the Programme. Interviews were based on an evaluation structure agreed at the outset of the project. The interviews conducted by ESYS are given in Table 2.1.

Interviewee	Representing
Michael Anderson	Vice Principal University of Edinburgh / Anderson Report
Edward Barrow	New Technologies Manager, Copyright Licensing Agency Limited
Bahram Bekhradnia	HEFC Director of Policy
Mark Bide	Publishers Association
Michael Breaks	Librarian Heriot-Watt / EEVL
Lynne Brindley	Pro Vice Chancellor, Leeds University / FIGIT
Penny Carter	Oxford University Press
Jenny Chambers	Loughborough Librarian (ILL)

⁶ <http://www.jisc.ac.uk/cei/>

⁷ <http://www.ukoln.ac.uk/services/elib/>

Interviewee	Representing
David Cook	JISC Secretariat
Jim Corlett	Faculty Liaison Officer for Engineering and Computing, Nottingham Trent University Library
Eric Davies	Project Director, FIDDO project, Loughborough
John Davies	Publishers Association
Lorcan Dempsey	UKOLN (Director)
Sir Brian Follett	Vice Chancellor, Warwick University / Chair of Libraries Review Group
Geoffery Ford	SCONUL (Chair) / Librarian, Bristol University / ILRT, Bristol
Nicky Gardner	FIGIT / University of Stirling
Liz Graham	eLib Programme Office
Geir Granum	EEVL / Heriot-Watt (Technical Officer)
Leah Halliday	SCOPE team
Tracey Hopkins	Loughborough University / CTI
David House	Deputy Director, University of Brighton
John Kelleher	Tavistock Institute
Linda Kerr	Heriot-Watt / EEVL
Brian Lang	Chief Executive, British Library
Michael Lesk	Divisional Director, National Science Foundation, USA
Derek Law	ISSC / FIGIT / Strathclyde University
Roddy MacLeod	Heriot-Watt / EEVL
Carol Moore	Chief Librarian, University of Toronto, Canada
Charles Oppenheim	FIGIT / Loughborough
Helen Pickering	SCOPE team
George Pritchard	SCOPE team
Fytton Rowland	Loughborough University
Carolyn Rowlinson	SCOPE / Librarian, Stirling
Chris Rusbridge	eLib Programme Director
John Shipp	Librarian, University of Sydney, Australia
Jean Sykes	SCONUL Vice chair / LAMDA / Librarian BLPES
David Warlock	EPS Consultants
Julie Woodfield	Research Assistant, FIDDO project / Loughborough

Table 2.1: Interviews conducted

2.3.6 Other sources

There is a wide range of documents available which analyse the progress and impacts of eLib. These include those produced through projects linked to eLib, such as Ariadne and literature from relevant academic journals, such as the New Review of Academic Librarianship. In addition to these, specific supporting studies within eLib have analysed important topics such as impacts (eg IMPEL-2). All of these information sources have been a valuable input to the evaluation.

3. OPERATION AND MANAGEMENT

This chapter evaluates the operation and management of eLib. The initial section reviews the origins and formation of the Programme because these have had an important influence on its structure and many aspects of its management. Thereafter, the key issues examined are the Programme steering, project selection and management / support.

3.1 Origins

The Joint Funding Council's Library Review Group reported in December 1993 (membership information is given in Appendix A). The Review Group's report is known as 'The Follett Report' after the Review Group's chair, Professor Sir Brian Follett, VC of Warwick University.

The impetus for The Follett Report was pressure on library space, stock and facilities in the early 1990s when new universities were being formed and student numbers were increasing rapidly. In 1992/93, the Joint Funding Council was faced with considerable media coverage of the lack of library facilities for the increased student numbers entering HEIs. At the same time the cost of many library resources, particularly journals was seen to be increasing rapidly.

The full Review Group met nine times between October 1992 and October 1993. Detailed work was conducted by three sub-groups established to review specific aspects of library provision:

- Funding and Resource Issues
- Management of Libraries
- Information Technology

These groups met on numerous occasions, and commissioned a variety of studies and papers on behalf of the Review. They reported to the main Review Group at regular intervals during the first half of 1993, and submitted final reports in July 1993. The Library Review process involved extensive consultation with libraries throughout the HE sector.

Chapter 7 of The Follett Report (Information Technology) was distilled from a large body of work produced by the IT review sub-group, itself drawing on earlier concepts of an electronic libraries programme. Much of the thinking at this time has been published and has proved to be very informative and educational for the community as a whole. IT was seen as a means to solve problems addressed elsewhere in The Follett Report, particularly those linked to the quality of undergraduate provision. Other issues considered amenable included the spiralling costs of journals, changes to existing publisher / copyright models and the provision of electronic course material.

The eLib initiative derived its initial shape directly from the IT recommendations of The Follett Report which specified approximate funding allocations to the different programme areas. Table 3.1 summarises key recommendations which have been mapped to the eventual eLib programme areas. eLib has sought to implement the recommendations of The Follett Report in two ways. Most subjects were handled directly by allocating a specific eLib Programme area to them. A few additional areas (such as copyright) were also considered within the eLib remit, but were handled indirectly across most of the other Programme areas.

eLib area	Library Review Group Recommendation
Navigational Tools	355. The funding councils should provide £1 million over two years through the JISC to encourage the development of networking navigation tools in the UK and the growth of local subject based tools and information servers (paragraph 265).
Electronic Document Delivery	357. £1 million a year over three years should be provided by the councils to fund a number of electronic document delivery projects (paragraph 277).
Digitisation	358. The funding councils should make available £0.5 million over three years to support projects to demonstrate the value of digitising books and journals out of copyright. Depending on the outcome, a further £0.5 million should be made available to distribute the digitised products (paragraph 279).
Electronic Journals	359. The councils should provide £2 million over three years to support a series of projects to elevate the status and acceptability of electronic journals and to prepare the way for multi-media electronic journals which will fully utilise the potential of SuperJANET (paragraph 288). 360. The funding councils should make clear that refereed articles published electronically will be accepted in the next Research Assessment Exercise on the same basis as those appearing in printed journals (paragraph 289).
Electronic Books	361. £1 million per year for three years should be made available by the funding councils to promote the creation of digitised texts that can be customised to individual requirements. This would involve demonstrator projects mounted at one or more host universities, and a system to support copyright permissions and payments (paragraph 294).
Databases, Datasets, and Catalogues	362. The councils should provide funding in 1994-95 to enable the JISC to undertake a feasibility study of the British Academy's recent proposal that an Arts and Humanities datacentre should be established (paragraph 299). 363. The funding councils should provide £0.5 million a year over three years through the JISC to fund the continued development of the CURL database, its conversion to an Online Public Access Catalogue (OPAC) and its operation as a national public access catalogue service (paragraph 301). 364. The funding councils should commission a study from UKOLN to establish whether a national retrospective catalogue conversion programme is justified and to explore the implications of much wider access both to records and to actual collections so converted. This study should be monitored by a group of representatives from the academic community (paragraphs 303-4).
Awareness and Training	366. A national networked training programme for librarians and information scientists working in academic libraries should be established by the councils with funding of £1 million a year over three years (paragraph 308).

Table 3.1: Library Review Group financial recommendations linked to subsequent eLib Programme areas⁸

Figure 3.1 summarises the position of eLib within the context of the Library Review Group's objectives and their implementation for the benefit of users in the HE sector.

⁸ Library Review Group Recommendations from the Follett Report, December 1993

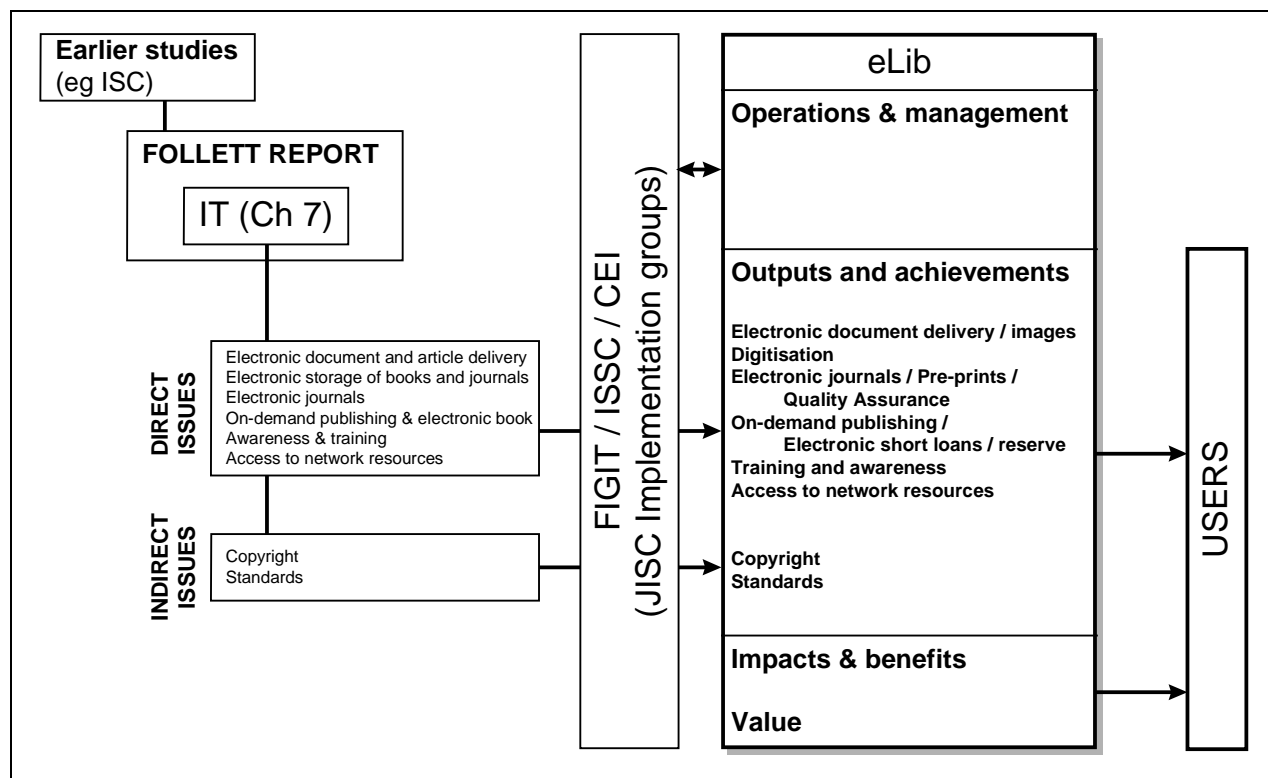


Figure 3.1: High level overview of eLib within the context of The Follett Report

3.2 Formation

An important feature of the Libraries Review Group was that significant funds were found to ensure that its recommendations could be implemented effectively. Following the recommendations of The Follett Report, the HEFCs made the management of eLib the responsibility of JISC. Within JISC, the Follett Implementation Group on Information Technology (FIGIT) was created to establish and manage eLib. FIGIT operated in parallel with the JISC Information Services Sub-Committee (ISSC) with which it was merged in 1997 to form the CEI. The budget available to implement The Follett Report through FIGIT was supported by funds channelled through the ISSC, which were available as a contingency to cover specific areas and provided inputs to some subject areas, such as Access to Network Resources projects.

The management of eLib within JISC represented a change in emphasis for JISC. Up to that point, the emphasis (as previously in ISC) was on technology and networks. The work of FIGIT represented a move towards an increased emphasis on information provision and content.

eLib is one of the first examples of a JISC managed programme. The emphasis was on an overall vision to be realised and the group were keen to avoid a situation where a set of individual projects was funded with few links. FIGIT wanted the Programme as a whole to make a difference to libraries and information provision in HEIs. As a result, the eLib Programme was implemented aggressively with ongoing collaboration mainly channelled through FIGIT members.

At the time the work was conceived (1992/93) there were few models within the field of electronic libraries available as reference points for the Programme. The Libraries Review Group had already sent delegations to the US to check on progress there, but only found isolated project examples. The diversity of eLib was therefore part of a deliberate strategy for Phases 1 and 2 described as 'letting a hundred flowers bloom'. The aim was thus to develop multiple, and in some cases parallel projects to test the algorithms. eLib was therefore explicitly asked to test concepts and it was recognised that not all projects would succeed.

Procurement and selection for eLib were modelled on a Research Council approach in the sense that applications were solicited within a structured framework linked to policy objectives. The NSF approach to programmes was also considered to be an influence. The view was therefore that the Programme was more important as a whole than the sum of its projects. Within this framework, individual project failures could be seen as being the result of the experimental nature of the Programme rather than disasters (provided the reasons for the failure were not bad management and the findings were disseminated). The analogy with a research programme is valid, although it is limited because of the difference in timescales and expectations. eLib was a shorter term activity with much higher expectations for transition to service development.

3.3 Project selection

There was discussion early in the process as to the best approach to adopt for project selection. The 'traditional' approach in the area was to 'back winners', namely to find the best qualified people and ask them to do the work. For eLib the remit was more experimental than in many previous programmes, particularly those under the ISSC heading. As a result, the approach adopted was to define the structure of the Programme, and within this to request expressions of interest from the community which would be subject to iteration before resubmission as more comprehensive proposals. The project awards were then based on these second submissions.

The approach adopted for the selection of projects is summarised in the following quotation which defines the FIGIT framework⁹:

'Given the very wide scope of the initiative and the strong desire to ensure that the overall programme contributes coherently to the development of the electronic library, and takes account of relevant work already underway, FIGIT does not propose simply to invite competitive institutional bids for projects in each category. FIGIT intends in the first instance to invite higher education institutions and other interested parties to submit expressions of interest in programme areas. Interest may be expressed in a variety of potential roles - to lead projects, to participate as a partner, to contribute resources, to act as a potential test or user site, and so on.'

Other aspects of the selection process defined in JISC Circular c4/94 were:

- a collaborative and managed approach
- a range of ways forward, depending on the Programme area
- follow-up seminars of interested parties to firm up on some programmes
- town meetings to engage a range of interest groups and to develop potential partnerships for consortia
- some open invitations to bid, other limited tender specifications, and where appropriate some direct commissioning of activity through FIGIT
- a staged approach to ensure that institutions will not need to devote excessive resources to their response and enhance the coherence and wide acceptability of the final programme

For the process of project selection, FIGIT divided into evaluation sub-groups as shown in Table 3.2.

⁹ JISC Circular c4/94

Programme area	Evaluators
Document delivery	Ian Winkworth, Alan Robiette, Derek Law
Electronic Journals	Lynne Brindley, Nigel Gardner, Mike Tedd
Digitisation	Philippa Dolphin, Andrew Jordan
Training	Richard Heseltine
Supporting studies	Lynne Brindley, Derek Law, Chris Rusbridge
Copyright	Charles Oppenheim

Table 3.2: FIGIT sub-groups for evaluating eLib project proposals

In practical terms, the selection process was:

- issuing a call for outline proposals
- review of the outline proposals received
- for promising submissions, review of the outline proposals and request changes
- receiving the revised proposals
- if the revised proposal was acceptable, recommending it to FIGIT for funding
- obtaining final funding approval at the full FIGIT meeting

The resulting allocation of funds to the different Programme areas is shown in Table 3.3 and summarised in percentage terms in Figure 3.2. The approximate amounts for each area were specified in The Follett Report as described in Table 3.1.

Programme area	Total cost (£)	Number of projects	Ave project cost (£)
Electronic Document Delivery	2,285,000	5	457,000
Electronic Journals	2,905,000	12	242,083
Digitisation	500,000	2	250,000
On-demand publishing	1,775,000	7	253,571
Training and awareness	2,530,000	7	361,429
Access to network resources	1,920,000	9	213,333
Supporting studies	510,000	3	170,000
Pre-Prints	655,000	5	131,000
Quality Assurance	105,000	1	105,000
Electronic Short Loan	1,680,000	8	210,000
Total	14,865,000	59	251,949

Table 3.3: Distribution of funds to different Programme areas

It is important to note that not all projects selected were capable of ending as a service. Some were designed as support projects, others were to test the opportunities and identify problems and issues. In some areas there was funding from channels other than FIGIT. In particular, funds for the Access to Network Resources projects came from the ISSC budget. Some of these, such as SoSIG, were existing projects taken over by eLib and continued with joint funding, in this case from the ESRC.

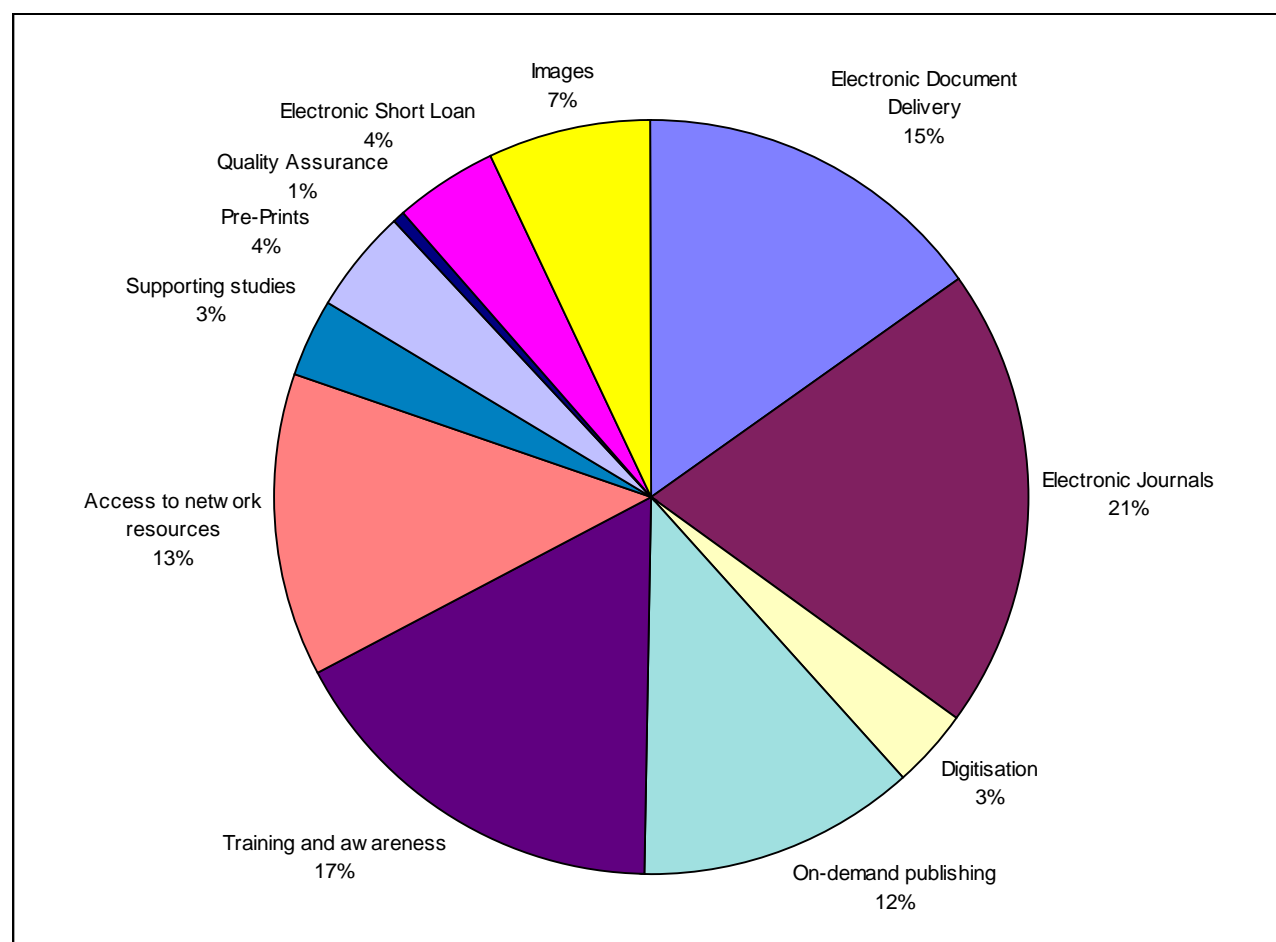


Figure 3.2: Percentage distribution of funds to eLib Programme areas

The broad scope of the approach was evident in the final number of projects selected, which totalled 59. Although there was no specific target for project numbers, the selection of such a large number of projects helped to support some of the key aims of the Programme in areas such as cultural change and coverage of different possible models. Appendix B lists the organisations involved in eLib, effectively the results of the selection process. In summary, the numbers of organisations involved are shown in Table 3.4.

Category	Number
Organisations leading three projects	4
Organisations leading two projects	8
Organisations leading one project	26
Organisations participating in at least one project (but not leading any)	126
Overall total	174

Table 3.4: Organisational participation in eLib

There have been a number of comments on the transparency of the selection process and the levels of consultation undertaken. These can be traced back to the approach used to drive the Programme. While it is acknowledged that there could have been more consultation, this would probably have reduced Programme momentum at a time of rapid change in its subject area. The management were therefore justified in relying on the consultation carried out at the time of the Libraries Review Group. Another important aspect of the selection process was that projects were not awarded to Information Science Departments on the premise that basic research was not to be funded by eLib. The selection approach appears to have offered a reasonable compromise between a fully structured approach with pre-selected participants and a lightly structured, fully open call.

3.4 Timescales

It was an intention of the Libraries Review Group that their recommendations should be implemented as swiftly as possible, seeking to solve the problems of the time while they were still valid. The construction of new library buildings, which was the largest result of the review in financial terms, is virtually complete now.

An important reference for understanding the evolution of eLib is the relative timing of events. Figure 3.3 shows the main project events during eLib's first two phases and Figure 3.4 shows the timing of the Follett / FIGIT meetings leading to the formation of the Programme.

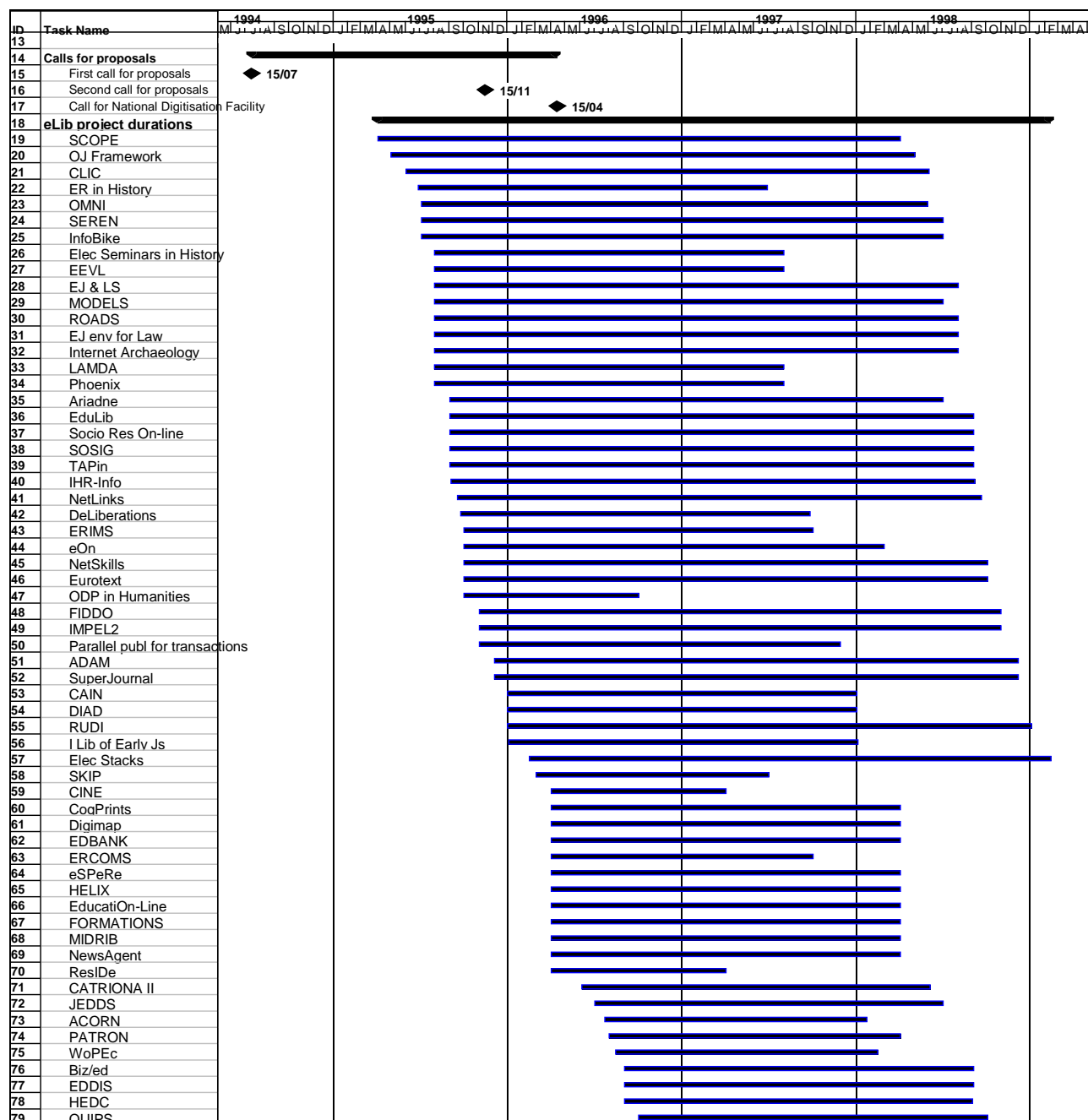


Figure 3.3: eLib project timelines

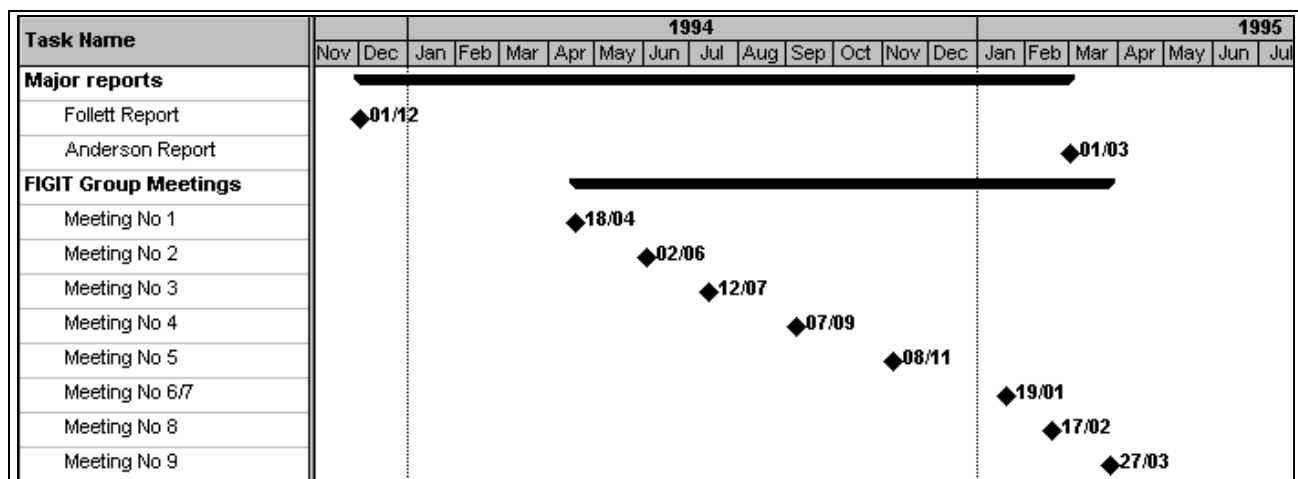


Figure 3.4: Follett and FIGIT timelines

The three year outline Programme duration was a factor dictated by the three year funding cycle of the HEFCs. The early understanding of the time available within which to use these resources was an important reason why the Programme was initiated quickly. In the event, the Programme ran for more than the three years because of the time taken for the process of developing consortia, reviewing proposals and setting up projects. The flexibility allowed in the timescales attached to the resources has been important in allowing eLib to perform effectively and handle project issues such as staff recruitment. Staff recruitment was a major difficulty for many projects in relation to the tight timescales for initiating projects.

The move to start and complete eLib work on a short timescale was also driven by the speed of events in the information sector. This is emphasised by Figure 3.5 which illustrates the growth of Internet use during the period when eLib was starting up.

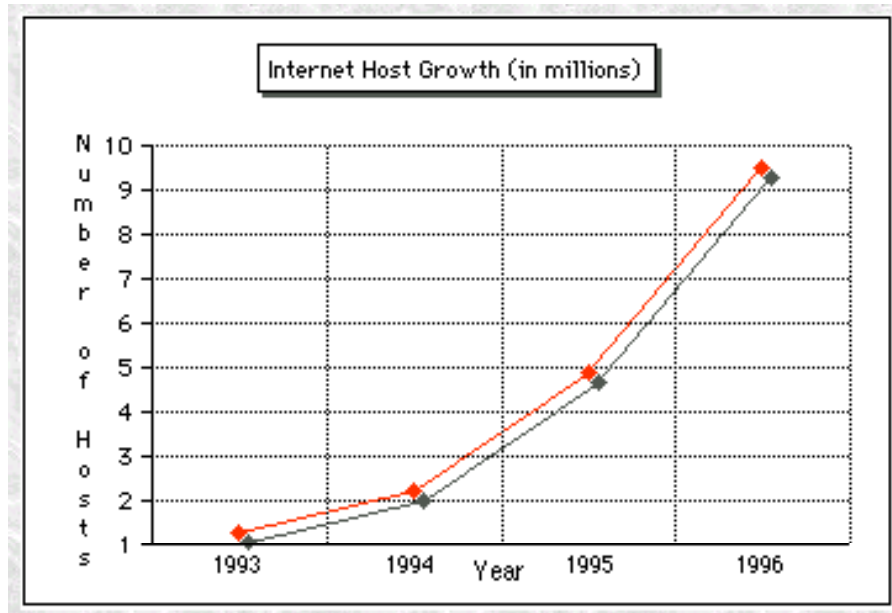


Figure 3.5: Internet host growth (ie IP addresses) 1993 to 1996¹⁰

As experience has shown, not only the implemented systems but also many of the lessons learned have a very limited shelf life. Figures 3.2 and 3.3 show that there was about seven months between the publication

¹⁰ Source: Internet Growth Summary Page, Matthew Gray, Massachusetts Institute of Technology

of The Follett Report and the first call for proposals for eLib. There was then another eight months before the first project started and almost a year before the majority of Phase 1 projects were underway.

This timescale for the implementation is not unusual for a Programme of this size, particularly when managed primarily by a committee of non dedicated staff and in which there was an iterative process of project formation. The timespan of the projects has also been raised as an issue in relation to the time required to establish self supporting services, in this case the requirement would be for longer projects. In fact, a responsive management approach was adopted to help those projects with a realistic chance of establishing a service to achieve this end.

3.5 Programme steering

There were three key levels within eLib management: FIGIT, the eLib Programme Office and the individual eLib project management. The JISC Secretariat had an important supporting role. The outline structure of the Programme steering is summarised in Figure 3.6.

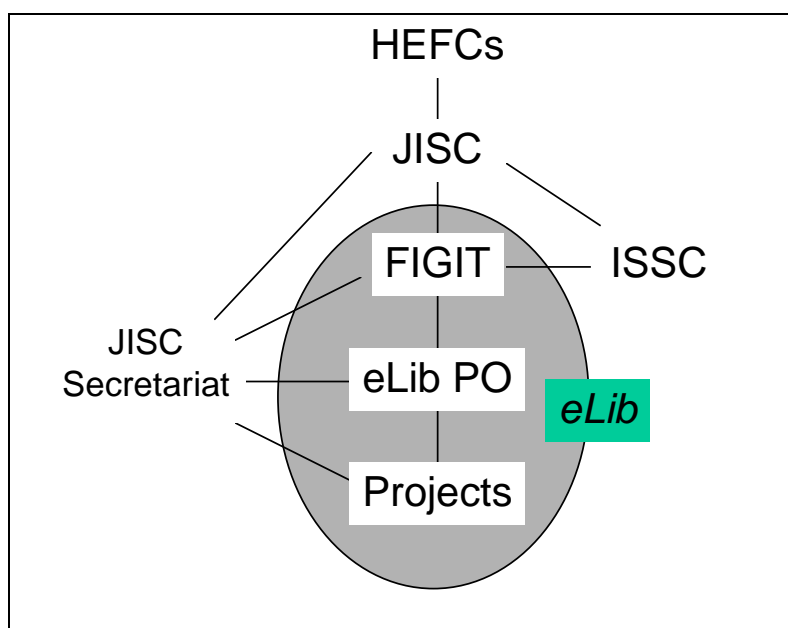


Figure 3.6: Reporting lines within eLib management

JISC made the formal decisions, but delegated to FIGIT budgetary responsibility for up to £250K per year per project (ie for the vast majority of the project decisions). In fact, there were only two cases where reference to JISC was required for this reason. This devolution of budgetary responsibility was unusual for JISC programmes, with only CTI having been dealt with this way before. This was a positive step for the Programme Office and project managers because of the flexibility it offered. This in turn brought benefits when projects needed to respond to changing circumstances or evolve exit strategies. The responsibilities of the key organisations involved in the management of eLib are discussed below.

3.5.1 FIGIT

Description

FIGIT (see Appendix A for membership) continued to drive the Programme after its initiation. Links established by the Chairs of FIGIT and ISSC through earlier Computer Board activities helped the implementation of eLib by transforming the views held of the Programme by senior management. The implementation process was therefore one of continuity from the Libraries Review Group through to FIGIT and meant that there was scope for objectives to evolve. Table 3.5 summarises the responsibilities of FIGIT and ISSC.

Organisation / Committee	Functions
FIGIT (later merged with ISSC to form CEI)	<p>Cost effective implementation of the IT aspects of the Libraries Committee report:</p> <p>Development of the Programme and projects</p> <ul style="list-style-type: none"> • Linking IT developments and integrating them with the wider aims and implementation of the Libraries • Develop a coherent programme of research and development work, taking account of international developments and leading to full implementation • Promote the programme and ensure effective communication • Evaluate project proposals • Allocate funds to projects / advise JISC on resource allocations over the agreed level • Effective financial control and management • Develop operational services from pilot projects <p>Links with JISC, HEFCs and others</p> <ul style="list-style-type: none"> • Provide advice to JISC on resource requirements • Provide advice to JISC on policy issues • Liaise closely with other JISC sub-committees <p>Links to institutions</p> <ul style="list-style-type: none"> • Continue to consult with HEIs over requirements
ISSC	<p>JISC Information Services Sub-Committee</p> <ul style="list-style-type: none"> • Funded eLib Access to Network Resources • Strong links with FIGIT through co-operation between Chairs

Table 3.5: Summary of FIGIT and ISSC responsibilities towards eLib¹¹

FIGIT handled the project selection described above and the overall structure of the Programme was already in place when the Programme Director was appointed and the Programme Office was established. The Programme Director participated in the selection groups (which were sub-groups of FIGIT). The Programme Director and a representative from JISC Secretariat attended all of the FIGIT meetings.

Assessment

FIGIT was a group with a strong clear vision and high levels of commitment from all those involved, including the JISC Secretariat. The reasons it worked well include the following:

- good people selected
- good team spirit
- shared vision and continuity from the Libraries Review Group
- the knowledge that money was available to achieve the objectives

It is important to emphasise the high level of continuity from the Libraries Review Group through to its implementation group, FIGIT. This is shown by comparing the membership of FIGIT with that of the Libraries Review Group and its Information Technology sub-group as given in Appendix A.

¹¹ Summarised from JISC Circular 4/94 Annex B: Follett Implementation Group on Information Technology (FIGIT) - Terms of Reference

The group dynamic and chemistry was maintained throughout its operation and there were also good links with the eLib Programme Director from the time of his selection and appointment in early 1995.

3.5.2 Programme Office

Description

The purpose of the eLib Programme Office was to facilitate the Programme on behalf of FIGIT. The Programme Director was intended to be functionary, responding to the requests of others. The main remit for steering the Programme remained with FIGIT and its successors. Nevertheless, the appointed Programme Director brought strong complementary skills from outside the sector (ie a more technical background) and provided different angles on certain aspects of the Programme. This required a period of handover in which aspects of management were passed on from FIGIT to the Programme Office. From the start of Phase 2, a shared vision of the Programme had emerged and the Programme Office took a more prominent role in driving the Programme. The functions of the Programme Office are given in Table 3.6.

Organisation / Committee	Functions
eLib Programme Office	<p>The Programme Director will take a lead in the development, promotion and full implementation of the recommendations, working closely with FIGIT to:</p> <ul style="list-style-type: none"> • oversee on behalf of FIGIT the development programme and associated research and other activities, taking place under the auspices of the Libraries Initiative • establish mechanisms to provide regular and comprehensive feedback to FIGIT, JISC and the funding councils on their progress and achievements • assist in the evaluation of the initiative and prepare detailed reports to FIGIT on its progress, making recommendations with associated resource implications • establish the Office as a source of expertise on digital library developments (broadly defined) and related work in the information and publishing field • ensure that the aims and achievements of eLib are widely known and disseminated throughout the HE sector and beyond, through promotional and educational activities • liaise with other agencies and individuals with interests in the work of the Libraries Initiative, to encourage participation and widespread commitment to the Programme.

Table 3.6: Summary of eLib Programme Office responsibilities¹²

The Programme Office had a large degree of independence and operated in consultation with FIGIT and also with the JISC Secretariat. FIGIT members were also involved directly in the steering of the larger projects. The Programme Office team covered the majority of the project monitoring.

Assessment

eLib costs spent on the Programme Office were in the region of 5%, although this is not the total management cost (the JISC Secretariat and FIGIT costs also need to be considered along with the management of the individual projects). The outlay on management at the Programme Office level is very low when compared to an average IT project. This expenditure has provided good value because it provided the following:

- setting out reporting requirements
- FIGIT role through steering committee
- provision of project management training
- coverage of almost 60 projects with a limited monitoring role

Additional benefits were:

- Tavistock evaluation work
- CNI (Coalition for Networked Information) meetings
- links to the Publishers Association and British Library

¹² Summarised from JISC Circular 4/94 Annex B: Follett Implementation Group on Information Technology (FIGIT) - Terms of Reference

- flexibility in how to use contingency central budget throughout Programme lifecycle, allowing eLib to be very responsive to external events
- travel budget for networking meetings
- ad hoc consultancy

The projects varied in the amount of contact they had with the Programme Office. It was difficult for the eLib Programme Office to visit all the projects regularly because there were 59 of them and only two Programme Office staff for most of the time. In addition, much of their time was future oriented. In some cases, with hindsight, additional visits would have helped.

On reflection, 59 projects was too many for the Programme Office to co-ordinate coherently. Even to visit each project once a year would have been too much. In some cases a 'sweep' was done (eg all the Scottish projects were visited in a week), but on the whole it was not practical. In some cases, projects had geographically very diverse consortia and thus did not meet very often within the consortium.

When visits to projects were managed, these were helpful, but they took a considerable amount of time. During the middle and latter stages of Phase 2, the planning for Phase 3 took substantial time. This involved strategic work for FIGIT and CEI (ie more than basic Programme Office functions).

It might have been possible to have additional co-ordinators within the Programme Office team, but it was found to be important to have a small and very compact team running the Programme to avoid the need for internal co-ordination.

3.5.3 JISC Secretariat

Description

The JISC Secretariat played a very active role in the operation of eLib, acting in close co-operation with the Programme Office. The main role of the Secretariat was to handle the financial and administrative functions of the Programme. The functions of the JISC Secretariat are given in Table 3.7.

Organisation / Committee	Functions
JISC Secretariat	<ul style="list-style-type: none">• Financial and administrative management of the eLib Programme• Providing links to other JISC programmes• Support continuity from earlier (ISC) programmes

Table 3.7: Summary of JISC secretariat responsibilities towards eLib¹³

FIGIT took all the funding decisions within their delegation from JISC and finalised proposals were referred to FIGIT meetings for approval. The financial administration was then referred to the JISC Secretariat which did most of the financial management, such as grant letters and approvals for funding extensions.

Assessment

Financial awards to projects were made as grants rather than contracts. This had the advantage that VAT does not need to be levied on awards, but the disadvantage that there was no ultimate control over deliverables in the way that a contract would provide.

In addition to the basic grant approach, some projects considered to have a chance of establishing a self-sustaining service were also underwritten to support the transition. These underwrites were intended as an end stop to allow the project to cover costs in the event that projected revenues fell short of estimates.

The managers of eLib projects were effectively independent because of the lack of grant conditions. They were required to allow access to their projects, but reporting was not required as a contract condition

¹³ Summarised from JISC Circular 4/94 Annex B: Follett Implementation Group on Information Technology (FIGIT) - Terms of Reference

because there were no contracts. Projects were grateful for the support from the PO, but ultimately it would only have been possible to sanction projects by escalating the reporting of problems to their University VCs, although this was not found necessary in any cases within eLib.

On the whole, there was an incentive for organisations to make a success of their eLib projects because the funds allocated did not cover overheads and thus the full costs of the projects to the organisations. A degree of investment was therefore needed as an indication of commitment.

3.5.4 Project Management

Description

At the eLib project level there was wide variation in the levels of project management experience, though on the whole most project managers did not have extensive experience. The structure of many projects was very challenging from a management perspective because of the diverse consortia and the often large geographical separation between the partners. In addition, the volatility of staffing (see below) was also an important management issue. Despite the difficulties above, there appear to have been relatively few major problems directly attributable to project management. The functions of the eLib project managers are given in Table 3.8.

Organisation / Committee	Functions
eLib Project Managers	<ul style="list-style-type: none"> • Receipt of management training • Project planning, including maintenance of a project plan • Provision of a consortium agreement • Steering Group (meeting at least once per year) with a FIGIT / CEI representative <ul style="list-style-type: none"> – reporting back to JISC – represent the broader needs of the HE sector in advising the project how to develop products and services – reviewing project reports and ensuring objectives can be reached – to support the project and maintain its visibility – to commission external studies where necessary • Development of a business plan (where continued operation is envisaged)

Table 3.8: Summary of eLib project management functions¹⁴

Assessment

Many of the teams were not familiar with project working and thus needed considerable support in project management techniques. This was provided by the eLib Programme Office in the following ways:

- a project manager's pack was supplied, containing all the supporting documents and giving guidance on various elements of the management process
- project management courses were given to many of the project managers.

The training and improved familiarity of library staff with project working and management are a major cultural input of the eLib Programme. There were however some limitations. The courses, which had been recommended from the Teaching and Learning Technology Programme (TLTP), were not as effective as was hoped. This is an area where the general view has been negative (eg poorly delivered, wrongly pitched, poor materials), particularly from those who had already some management experience and were still encouraged to attend the course.

The main difficulty for many projects was a dependency on staff with short term contracts, many of which were shorter than expected. The characteristics of project staffing were as follows:

- mainly librarians and academics

¹⁴ Summarised from JISC Circular 4/94 Annex B: Follett Implementation Group on Information Technology (FIGIT) - Terms of Reference

- variable in level of inclusion of senior staff
- teams often unbalanced (mix of systems / infrastructure development, management, librarians and academics)
- high proportion of staff on short term contracts
- exit strategy weaknesses

The emphasis on short term contract staff led to considerable skills loss, both to the projects and to the organisation as a whole (the HEIs running the projects). There is clearly a trade off here with project costs, but making retention a more explicit part of the Programme strategy would have helped the cause.

3.6 Evaluation and documentation

A feature of eLib which can be traced to the earliest FIGIT discussions is its use of evaluation. Early discussions between FIGIT and the Tavistock Institute led to the development of a two stage evaluation framework. The present report represents the summative, or final evaluation, but importantly a process of 'formative' evaluation was also implemented.

The aim of the formative evaluation was to evaluate the Programme while it was in progress and to feed the findings back into the Programme steering while there was still time to implement the findings. This process proved valuable in a number of ways:

- the process of evaluation itself was helpful in raising issues for both projects and the Programme in time for the feedback to be useful
- the annual summary of project annual reports provided a more formal summary of progress which was more comprehensive if less timely
- the policy mapping activity was particularly valuable in ensuring that the aims of the Programme were being maintained as the work proceeded
- a number of additional reports were produced on specific areas of eLib activity

The formative evaluation did require effort on the part of the project teams which had not been planned for at the time of their proposal submissions. Some projects were concerned that additional resources had been provided to some projects and not others (eg Appendix C, Case Studies, C.4.2 - programme steering).

In summary, the formative evaluation was found to be a valuable part of the Programme. It has also left a comprehensive documentary record of the Programme which allows independent evaluation and understanding, providing confidence that the Programme was well run.

It should also be added that, in keeping with the subject area, the large body of documentation associated with eLib has been well maintained and is readily available in electronic form via the eLib and JISC web sites and in hard copy at the Programme Office.

3.7 Summary

Overall, the JISC management of the Programme worked well through both FIGIT / CEI and the Programme Office / Secretariat. FIGIT drove the Programme hard, which was necessary to maintain timescales and any problems encountered relate mainly to tone rather than substance. The Programme Office was stretched but effective and has received almost universal acclaim from contacts.

With respect to the balance of the objectives, the approach of 'letting a hundred flowers bloom' in a defined framework was the right approach to adopt given the lack of a clear model at the start of the Programme and its aim to engage as many institutions as possible. Nevertheless 59 projects, many with complex consortia, was a very large number over which to maintain close supervision.

The project management training provided under eLib was not generally regarded very highly. This function is important and central support in the procurement of such functions would be valuable.

One area where there has been mixed comment is in the area of project selection and consultation. The need to implement the findings of the Libraries Review Group while they were still relevant is clear, as was the vision of those who drove the Programme. The small number of key people who drove eLib has given some the impression of a clique, although in terms of the allocation of projects this is not generally borne out. The approach did tend to favour groups which were already relatively forward looking (partly because such groups would be more familiar with the bidding process and with the potential offered by eLib). Appendix B shows that a good mix and spread of organisations was achieved. Greater engagement with established representative bodies such as SCONUL and representatives from publishers working on parallel topics would have been a positive step, provided this could have been undertaken without major detriment to the timescales. These consultations could be used to provide a preliminary assessment of the state of the art which could be disseminated to projects early on to ensure minimum duplication of effort.

Rapid dissemination of lessons learned is essential in a Programme of this nature. The formative evaluation has provided this within the structure of the Programme, as have many informal contacts. Nevertheless, it would have been valuable to have produced a high level technical summary document to present the lessons learned from the Programme. This could take the form of a check list for senior librarians setting their strategy objectives, thus helping to improve the impact of eLib among senior decision makers.

4. OUTPUTS AND ACHIEVEMENTS

The outputs and achievements of eLib are assessed using the individual Programme areas as a framework. These areas are as follows:

- Electronic document and article delivery
- Electronic storage of books and journals (digitisation)
- Electronic journals
- On-demand publishing and the electronic book
- Awareness and training
- Navigational tools (Access to Network Resources - ANR)
- Phase 2 Programme areas: pre-prints / quality assurance / electronic short loans / images
- Supporting studies

In each of the Programme area sections, the following structure is applied:

- Characteristics of the domain – outline of the rationale, key issues, allocation of funds and list of projects in the area
- Assessment – an evaluation of the Programme area
- Successes – achievements of the projects
- Problems – issues faced by the projects and cases where projects were unsuccessful

In addition to these sections, four case studies are presented in Appendix C which cover projects in the following four areas:

- Electronic Document Delivery: LAMDA
- Electronic Journals: SuperJournal
- On-demand publishing: SCOPE
- Access to Network Resources: EEVL

4.1 Electronic document and article delivery

4.1.1 Characteristics of the domain

The objectives of the work in this area were to develop document delivery services with a networked electronic component. These would provide service improvements and lower prices using existing library investments. The emphasis was on a variety of approaches to allow future service patterns to be explored. The range of topics included subject and geographic consortia, development of tools and standards, service delivery to end users and funding, costing and copyright issues.

This domain of document delivery was very much the preserve of the British Library and its Document Supply Centre (BLDSC). The BLDSC service, though comprehensive was seen by some in the HE sector as slow and expensive. It was also considered to be slow to adopt new technologies. The task was therefore to seek new models for document delivery which might provide alternatives to BLDSC services or provide new models for co-operation, thereby encouraging change. The approach was to test different models with the five projects, for example subject based versus location based and a variety of partnership models, an approach which implied that a full service development would only be possible from a minority of projects.

Electronic document delivery was expected by Follett to become a major development area during the eLib timescale. On the whole it was seen as a technically ambitious area, although some of the most successful projects in the area have not required major technical advances. Software development in this field proved to be difficult and in many cases was more ambitious than had been thought. A more detailed example of a project in this field is given by the LAMDA case study in Appendix C.

Electronic document delivery projects were not sufficient in their own right and had to be embedded with other systems such as catalogues. Projects were challenging from a service and organisational point of view and it was also an implicit objective to capitalise on the availability of SuperJANET.

The total allocation to this eLib Programme area within eLib phases 1 and 2 was £2,285,000. The distribution of this to the different Electronic Document Delivery projects is shown in Figure 4.1.

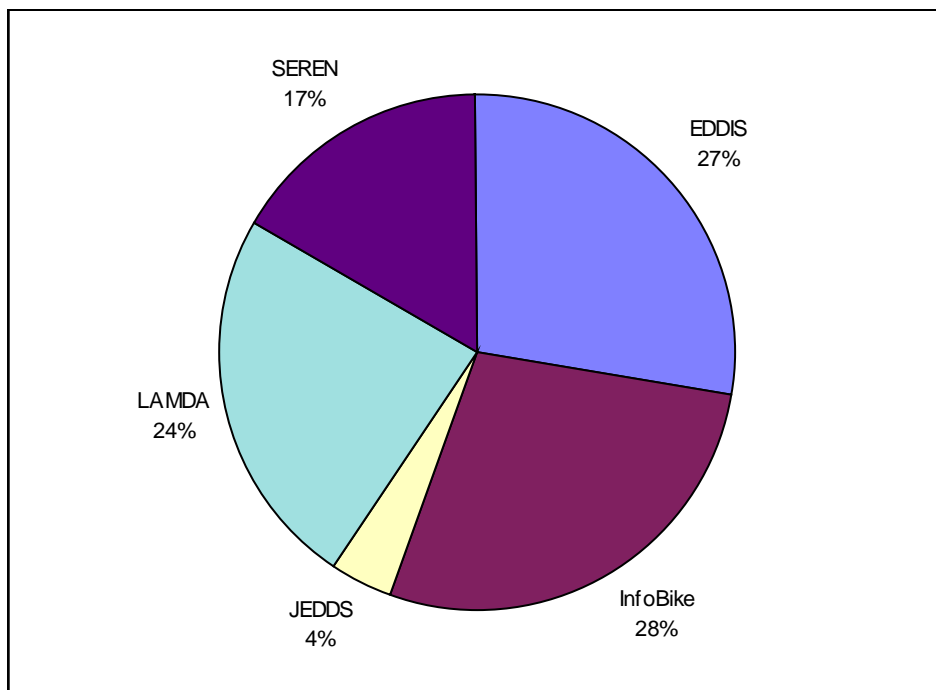


Figure 4.1: Distribution of funds to Electronic Document Delivery projects

4.1.2 Assessment

At the time the projects were initiated, the BLDSC had a monopoly on inter-library loans and no clear intention to move towards electronic document delivery. The move to develop alternative models would therefore appear to be well justified, whether the end result were to be either a move on the part of the British Library or the emergence of an intermediate inter library loan service such as LAMDA.

HE library co-operation provided a valuable basis for developing alternative models. Although there were significant attempts to achieve co-operation between libraries with close geographical links prior to eLib, the attempts were very limited in scope. The original proposals for LAMDA reflected this to some extent and were limited to a consortium from the London area. The actions of FIGIT in linking this group to CALIM increased the scope of the proposed co-operation considerably. This expansion in scope continued within the LAMDA project which has managed to grow to the present situation where there are 65 customer libraries as well as an increasing membership of supply libraries.

LAMDA is a good example of an eLib project which has made a successful transition to a fully operational service. Nevertheless it has also shown that:

- operating an alternative service to the British Library at lower cost is not easy. Although LAMDA costs remain below those of the British Library, it is not easy to maintain a fully self supporting basis. Indeed, if staff were costed at full market rates, the service may not be viable

- if LAMDA is to remain a viable service in the medium term, further technical developments are essential. These developments relate to the customer interface and the possibility of offering direct to end user services

LAMDA provides a good framework for the assessment of this area. It was specifically targeted at reducing inter library loan prices and was successful in this, but there has also been a growing understanding of how difficult it is to maintain a price advantage over the BLDSC. There have also been service improvements through application of electronic techniques to existing library stocks.

There have been technical development issues arising from the area which reflect the difficulties of managing software developments within a distributed consortium. These illustrate the need for adequate specification of both system elements and interfaces if the system is to be integrated effectively.

4.1.3 Successes

Service development with LAMDA has proved to be successful and remains established as an on-going and essentially self supporting service. LAMDA made effective use of the ARIAL software (a product of the US Research Libraries Group), but enhanced by JEDDS, a project in this area managed by an Australian University.

LAMDA has also established an intermediate model which capitalises on the existing resources, which meets one of the original objectives for the area.

EDDIS developments have input to commercial products and service provision through co-operation with Fretwell Downing, a commercial software and services company serving libraries. This arrangements involves sales under a CHEST agreement.

This area of project work has also been very successful in developing formal co-operation between major library groups. Hitherto, such co-operation has been very difficult to achieve on a large scale. LAMDA and SEREN both provide evidence of this.

4.1.4 Problems

One of the main difficulties in this area was to achieve services of sufficient size to offer significant economies of scale. In particular, the eLib project scale remains very small in relation to equivalent British Library services. The services which have developed remain vulnerable because their margins are very tight. The economic benefits of projects are therefore limited because the costs of service operation make it difficult to maintain a significant cost advantage.

The strategic options for this Programme area were constrained by factors such as the status of JISC relations with the British Library as well as by project activities.

A project which was not successful in terms of its original eLib objectives, but which nevertheless led to valuable results, was InfoBike. This project, which received more than 25% of the budget for the area, had involved complex development work. In parallel with this, a simpler concept was developed and used as the front end for the Pilot Site Licensing Initiative, funded separately by the HEFC. This latter development was successful and contributed to the formation of the electronic journals trading company 'INGENTA'.

4.2 Electronic storage of books and journals (digitisation)

4.2.1 Characteristics of the domain

It was clear during the planning stages that many eLib projects would depend on cost effective digitisation, but major developments in the basic technologies and software were not within the scope of eLib (although

SEREN did work in this area). Copyright was also an important consideration. As a result, it was recognised that digitisation would be a difficult area.

The result of this perception was a cautious approach. The call for proposals yielded a number of submissions, but in the event only two were selected to proceed as projects. The main reason was doubts over the demand for the proposed subjects of digitisation - it was not clear what should be digitised.

Of the projects accepted, one was for items which were still in copyright (DIAD) and the other for items out of copyright (Early Journals). This provided a limited basis on which to explore the issues. It should be noted, however, that eLib as a whole included digitisation in a number of other Programme areas and important lessons were learned from these projects. The Phase 2 projects in imagery also handled important digitisation issues.

The total allocation to the digitisation programme area within eLib Phases 1 and 2 was £500,000. The distribution of this to the two digitisation projects is shown in Figure 4.2.

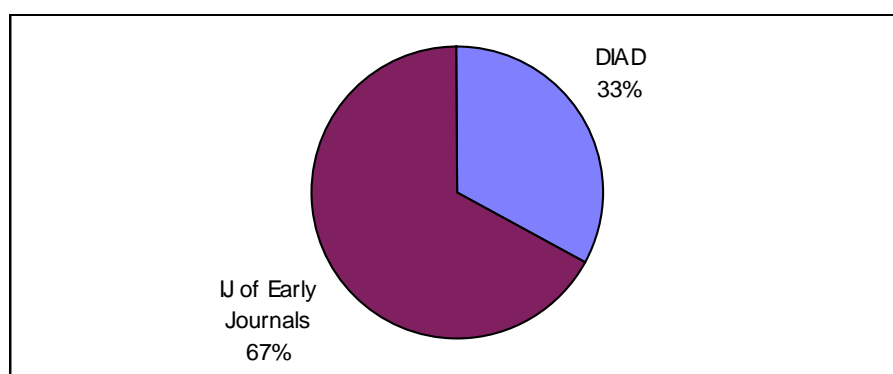


Figure 4.2: Distribution of funds to digitisation projects

4.2.2 Assessment

Apart from technical issues and the amount of time consumed checking the correct operation of the OCR, the main issue for digitisation projects was copyright. The Early Journals project concentrated on older materials with less severe copyright problems, but had a much smaller audience for its products. DIAD faced the opposite situation and clearly illustrated the problems of attempting to tackle copyright in relation to multiple media types. Important digitisation issues have arisen in many other eLib projects (such as LAMDA, where material to be supplied must be scanned from paper versions before being supplied).

The FIGIT approach was to fund only two representative projects and then to tackle the issue of digitisation in a more centralised way through other JISC initiatives, mainly HEDS and also JIDI. The subsequent centralised approach to digitisation (HEDS) mirrors the approach to copyright (NESLI) and was the right way to proceed at the time. It is possible that eLib could have been bolder in its initial project selection although the quality of the rejected proposals has not been revisited.

It has been argued that the lessons learned from digitisation were well known without the eLib projects. At the highest level this may be true, but the eLib projects have allowed some key practical issues to be explored which refined the understanding of the real costs involved. This in turn provides for much more effective modelling of the economics of electronic library systems and has been used in this way in later eLib supporting studies¹⁵.

¹⁵ Economic Models of the Digital Library, Halliday and Oppenheim, 1999. eLib Supporting Study

4.2.3 Successes

There is some evidence of greater use of early material which has been digitised compared to the use of paper versions.

Early experience of digitisation within eLib led to the Higher Education Digitisation Centre (HEDS, an eLib funded programme run as a JISC Service since August 1998). The Service was initially established in September 1996 as part of eLib with some links to the Phase 1 and 2 activities.

A second area of further development was the JISC Image Digitisation Initiative (JIDI). This was started with HEDS input. There was also an indirect link to AHDS (Arts & Humanities Data Service).

4.2.4 Problems

Technical problems were encountered such as in the digitisation and OCR of the older journals. Practical issues were the main problems such as thin paper causing read through difficulties and thus making OCR difficult.

Specific copyright problems were encountered with DIAD. In retrospect this may have been a bad choice of area because there were double copyright issues. The Art and Design emphasis meant both text and images, which have different copyright protocols. In the end there was a campaign of no co-operation against the project from suspicious potential contributors who thought their copyright protection was being undermined.

4.3 Electronic journals

4.3.1 Characteristics of the domain

At the time eLib was conceived and designed, there were few electronic journals in existence to serve as models. It was conceivable that electronic journals could offer advantages in two ways:

- improve overall quality by taking advantage of the new capabilities which e-journals can offer (advantages likely to be subject specific)
- as periodicals are a major cost item for many universities, the opportunity to seek cost reductions through electronic journals was an important opportunity to pursue.

It was important for eLib to ensure a mixture of different approaches to open up this domain and achieve acceptance. As a result, eLib electronic journal projects can be classified in two ways:

- 1) electronic paper journals vs full electronic journals
- 2) substantial journal services vs generic system architectures

The handling of copyright and the nature of the links with academic publishers were also important. Publishers were central to this area and in many cases eLib operated in parallel with the Publisher's own activities.

The Libraries Review Group also supported new developments. Achieving credibility and acceptance for electronic journals were particularly important and it was seen as important to explore potential alternatives to existing publishing models. The lack of an obvious model for electronic publishing meant that a variety of approaches and strategies were explored ranging from e-text to multi-media, broadcast to communication and systems development to action research.

Many projects in this area were set up to explore issues and try different approaches rather than provide for a direct transition to a service. For example, SuperJournal, although developing a framework for future use, predominantly aimed to learn lessons and to profile user requirements. A more detailed examination of SuperJournal is available as a case study in Appendix C.

The total allocation to this eLib Programme area within eLib Phases 1 and 2 was £2,905,000. The distribution of this to the different electronic journal projects is shown in Figure 4.3.

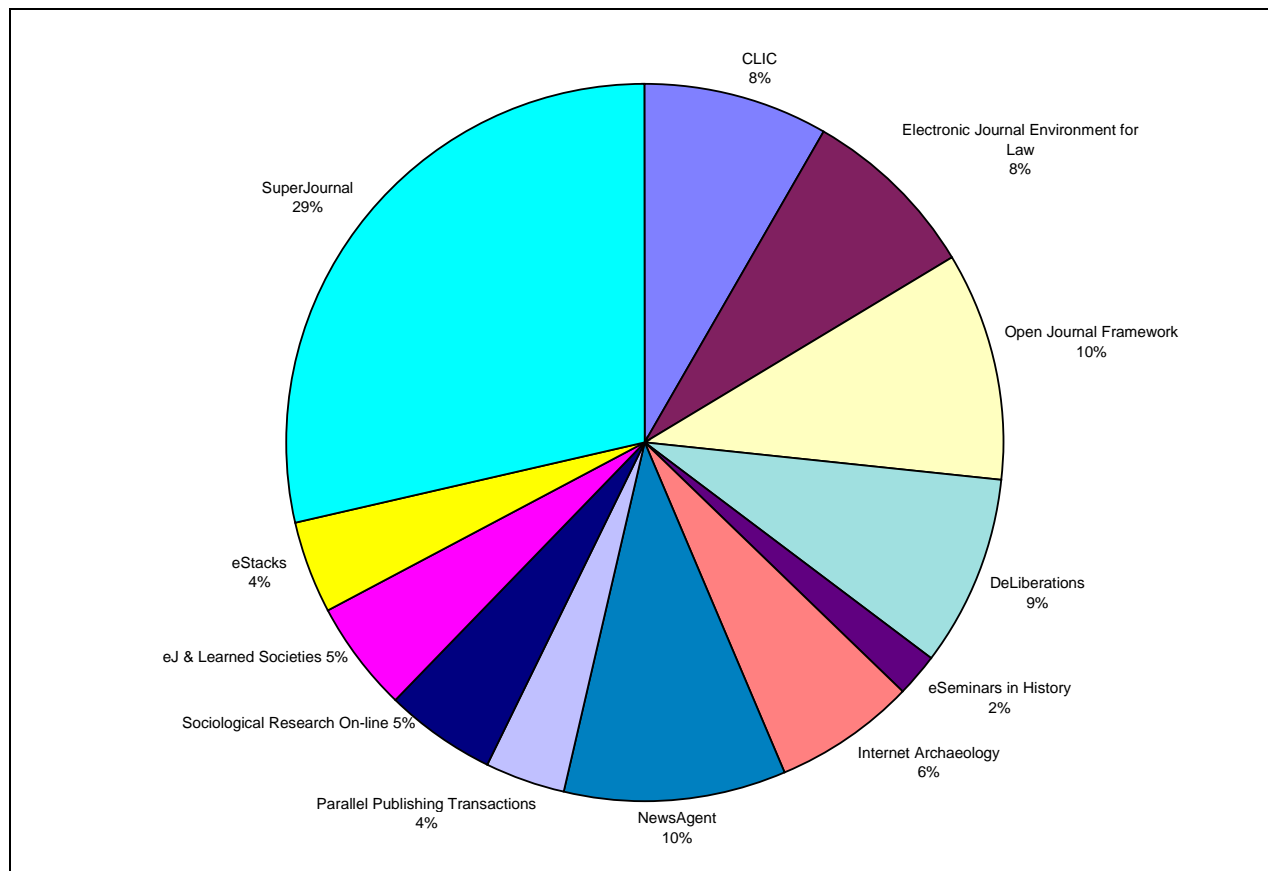


Figure 4.3: Distribution of funds to electronic journal projects

4.3.2 Assessment

The work on electronic journals was carried out in parallel with a number of existing publisher initiatives. The average size of project with the exception of SuperJournal was about £190,000, which is very small in relation to commercial start ups which would normally take about five years. SuperJournal was considered a very successful project by publishers and provided a large amount of valuable user information, fundamental for marketing which is the key to successful journal publishing. The smaller projects were successful in exploring different models and promoting the use of the new methods.

The SuperJournal project was not designed to continue beyond the end of eLib in a self-sustaining version of its original form. The journals produced under this heading were experimental and intended to produce lessons for future attempts. Nevertheless, it was intended that the project would result in a platform on which future electronic journal projects could be based. In fact this was partly achieved because the skills learned by the University of Manchester team involved in the project allowed them to make successful bids into key aspects of NESLI (National Electronic Site Licensing Initiative). This progress could, however, have gone further and a proposal from Manchester and some of the publishers, possibly using the CLUSTER format would have been welcomed.

A second aspect of SuperJournal was that publishers saw it as a pre-competitive, co-operative exercise. Consequently, publishers were unsure of their on-going commitment. There could also have been aspects of a cartel about SuperJournal in its existing form because of the number of publishers involved.

There has been considerable movement in other areas of electronic journals and the idea is starting to work now. In terms of full electronic journal projects, there were successful projects in areas where the full range of multi-media techniques offer genuinely new capabilities. Internet Archaeology represented a start up e-journal in an area where multimedia is very important. The multimedia content provided by authors was very impressive. In some fields, of which archaeology is an example, there is a need and a willingness to take advantage of the new opportunities made available by new techniques.

CLIC was a project run in conjunction with the Royal Society of Chemistry (RSC). The exit strategy allowed the RSC to take advantage of the project findings, but the way forward was not clear and the direct follow up was limited. An important part of this project which should not be overlooked was the work on electronic conferences. There have been two or three of these such as ECTOC - Electronic Conference on Trends in Organic Chemistry and Cyclical Chemistry.

Overall, there are more electronic journals in libraries as a result of eLib, and there is greater influence at political and technical levels. There was a significant contribution to better understanding of the issues, although summary dissemination of key findings has been limited. The level of impact on academics as a whole is difficult to determine. The impact on the broader area of publishing has been limited to lessons learned in specific journal application areas (eg chemistry) and in particular valuable user information from SuperJournal. The scale of most projects was too small and the marketing efforts too limited to expect long term impacts.

4.3.3 Successes

The greatest impact has been the large SuperJournal projects which has involved many important groups. The lessons learned from this project have informed the participants and allow them to improve their proposed services to users.

Many of the electronic journal projects have produced a successful outcome in relation to their objectives. A number of key achievements were made which included the following:

- improved status for the electronic journal among Publishers (eg influence on the Royal Society of Chemistry) and on academics
- improved mutual understanding between academics and publishers
- citation linkage - allows authors to become involved (eg sociological research on-line now accepted in the research assessment exercise)
- good success with electronic seminars in history
- firm basis for scaling up or launching new initiatives

4.3.4 Problems

The variety of project types under this heading means that many of the issues arising were specific to one aspect of electronic journal development. Nevertheless, it is possible to provide some general views on difficult areas:

- levels of user uptake have been limited (although with the timescales and project scales this is not surprising)
- the scaling issues also prevented transition to full service
- there was a tendency for projects to 'retreat' to the use of PDFs (ie become less technically ambitious)
- the costs were not less than paper journals as had been hoped- the cost of achieving quality was not insignificant
- the framework developed for SuperJournal was not re-used in its eLib form. eLib would have liked to see a proposal from Manchester and Publishers which could have proceeded under the NESLI heading
- there was a general naiveté regarding the publishing business (although improving understanding was an achievement of the Programme area)

- the objective of library space savings from disposal of backruns was not fulfilled
- the extent of dissemination of lessons learned from projects has been limited to those involved

The last issue is important because a number of electronic journal projects were set up with the aim of learning lessons. The issue is not that there was no general dissemination, there clearly has been some and lessons have certainly been learned by project members in both the academic and publishing communities, but the findings could have been brought to a much wider audience if a high level summary had been made available.

4.4 On-demand publishing and the electronic book

4.4.1 Characteristics of the domain

The Follett Report identified this area particularly as a prospective development - notably the creation of networked access to and on-demand publishing of learning materials and texts. This area, together with the electronic short loans collection was seen as a way to improve access to course materials and thus to improve the learning process. A variety of subject groups were covered as well as a range of material types.

Improving access in this way raises the issue of copyright and demonstrators were needed to promote the development of appropriate copyright payment systems. In addition to copyright, important issues were:

- digitisation
- cost recovery
- academic cultural issues

The last of these issues is particularly important because many academics perceive the availability of on-line course material with some suspicion. It is either seen as a threat (because it will lead to rapid convergence towards a chosen few authors) or as means by which personal intellectual property right may be lost.

A more detailed example of a project in this field is given by the SCOPE case study in Appendix C.

The total allocation to this eLib Programme area within eLib Phases 1 and 2 was £1,775,000. The distribution of this to the different on-demand publishing projects is shown in Figure 4.4.

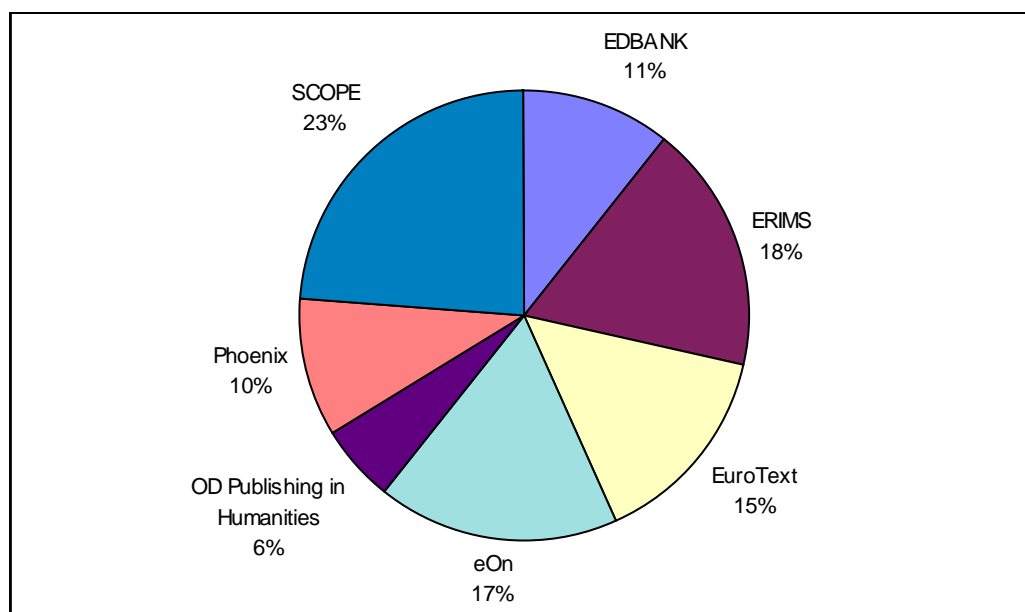


Figure 4.4: Distribution of funds to on-demand publishing projects

4.4.2 Assessment

Academic uptake has been limited, mainly because academics were found to be very conservative. Slow progress is still common in this area. There tend to be subject based differences in attitude, for example in one HEI, some groups (eg scientists) are very keen to go electronic on everything while others (eg humanities) are very resistant to change. Academics often see these developments as threats and it is the students who are the main enthusiasts. The situation has changed more recently and much material is now available on the web. Copyright clearance has also made a significant impact in this area.

Problems related to very limited user take-up affected some projects. In one case, it was suggested that a project had failed to interest the academics, but had also failed to find out why this was. A possible reason for the low uptake may lie in the project duration. At two years, the user base for SuperJournal was also very low, but it rose steeply in the third year indicating that projects with shorter timescales would have difficulties. Other possible factors related to the course material itself and the marketing resources available.

Sources of course material also caused problems which included:

- difficulties over IPR issues (in one case attributed to a change of policy related to a new chief executive)
- material which was not as attractive in practice as had been hoped

Overall, there was a tension between research and service roles. More work is needed on integration with teaching strategies and library reorganisation and publishers supply strategies than could be established within eLib. There was a successful transition into later projects such as the eLib Phase 3 HERON project.

Projects in this area were generally successful within their own remit. The analysis above emphasises the fact that the objectives in this area went beyond the library domain to encompass the whole teaching and learning process. For this reason, the slow uptake should be expected because it requires progress across a much broader front than many of the other areas covered by eLib. Overall, this area did not move as far forward as was hoped.

4.4.3 Successes

The SCOPE project was well managed, though not particularly ambitious (used technology to create paper based course packs). It led to the Phase 3 HERON project which seeks to achieve the necessary critical mass. There were successes in relation to the publishers. The considerable resistance in the early stages arose from publishers' worries over textbook sales (taking the formal view of the Publishers' Association). This resistance softened later.

4.4.4 Problems

Project timescales were often made too short by the fact that copyright clearance came much later than expected (such clearances were often required at a very high level). Having been acquired, the clearances were often gained only for the lifetime of the project, which made transition to self supporting services / production runs more difficult. Security and authorisation were also major issues. Overall, publishers were more difficult than expected regarding access to their IPR.

A factor affecting project timescales was the time taken for OCR proof reading in cases where extensive digitisation was needed, which was in most cases. On a day-to-day level, the time taken to transfer images on the network was also a problem.

The major issue was the problem of take up and limited user interest. This has been attributed to a normal pattern of early adoption, but low enthusiasm from academic staff generally means that a slow uptake is

expected to continue in the near future. As well as being related to general academic issues such as a resistance to 'spoon feeding' it may also be the case that a lack of marketing resources prevented further progress.

4.5 Awareness and training

4.5.1 Characteristics of the domain

The significant changes in the role of Library and Information Service staff was clearly described in the Fielden Report¹⁶ which was issued at the start of the eLib process in 1993 and compared the then situation to that in the mid 1980s. A major intention of The Follett Report was also to encourage libraries to work together and to think co-operatively, an aim which was therefore at least partly educational. Both of these points highlight the need for training and awareness.

In spite of the emphasis on electronic elements, it remains the case that more than 50% of the costs of most libraries relate to staff. People were thus seen as the key to establishing change. In keeping with the broader aims of eLib therefore, awareness and training area was one of the largest single areas of eLib (17% overall).

The approach to awareness and training reflected the practical ethos of eLib by concentrating on teaching people how to use new technologies but also to evaluate how these new skills might best be used to provide a service to users.

The total allocation to this eLib Programme area within eLib Phases 1 and 2 was £2,530,000. The distribution of this to the different awareness and training projects is shown in Figure 4.5. It is clear that, with 70% of the training budget between them, the NetSkills and EduLib projects were fundamental to this area.

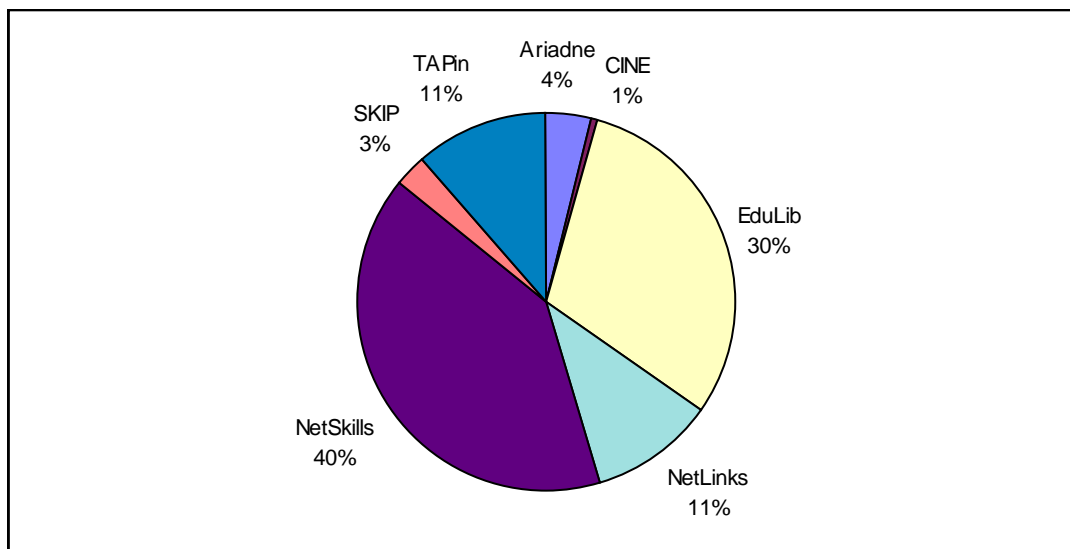


Figure 4.5: Distribution of funds to awareness and training projects

¹⁶ M3/93 'Supporting Expansion - A Report on Human Resource Management in Academic Libraries for the Joint Funding Councils' Library Review Group' July 1993 (revised September 1993)

4.5.2 Assessment

The training and awareness projects were successful projects which addressed core eLib objectives such as cultural change directly. The pragmatic approach of the projects helped to ensure that users could make practical use of their learning.

The two main projects have elicited good user feedback and others, such as Ariadne, have also been well received by the community.

NetSkills and EduLib provided good general awareness raising and good feedback has been noted for both of these projects. To take an example, one librarian sent two staff on NetSkills and, based on their enthusiastic response, sent four more. The course was found to very useful, although using it did provoke some comment within the HEI that the training could have been provided by their own staff. EduLib was a project which sought to make librarians aware of the pedagogic aspects of electronic services. NetSkills is still proceeding as a project, but is not making major financial returns.

Awareness and training projects are generally regarded as having been successful at the project level- this was described as a clean strand with successful projects. Groups chosen to operate large projects (eg NetSkills) already had a good track record in this area (eg the Mailbase training work).

4.5.3 Successes

NetSkills is still operational and is no longer fully dependent on JISC funding. Many users, including other eLib projects have cited the value of the training received in support of their own work.

These projects had a direct impact on everyday operational library staff, helping to offset some of the 'embedding' issues associated with other Programme areas in which regular staff may have had limited involvement with eLib projects. NetSkills reported in 1997/98 having completed 416 courses and seminars to 8,753 people giving a total of 34,397 person hours of training

Ariadne has been effective as a vehicle for eLib dissemination. Funding for the paper version has now expired, but the work continues as an e-Journal.

4.5.4 Problems

The training subcommittee of Follett had an imbalance of new universities. This led to training being regarded as an institutional rather than a sectoral issue. The committee failed to pick up on the earlier Fielden Report which reflected organisational issues.

The programme of training was not as comprehensive as Follett originally intended. This is an area to which the comment that eLib did little to involve library schools has relevance.

Staff retention issues were reported as a major problem for some projects, partly related to the marketability of the skills of those employed.

4.6 Navigational tools (access to network resources)

4.6.1 Characteristics of the domain

The Internet offers a very large range of resources, but the ratio of useful material to accessible material is normally very low. This possibility was recognised by the Libraries Review Group, who aimed to bring a more systematic approach to resource searches.

The majority of the projects in this area were subject based and in some cases there was joint funding. For example, SoSIG, the Social Sciences gateway project based at the (Institute for Learning and Research

Technology) ILRT Bristol, was originally an ESRC funded project which was taken on as a project joint funded by eLib and ESRC.

A number of the projects in this area were hosted in key centres of expertise such as the ILRT at Bristol or the Institute for Computer Based Learning (ICBL) at Heriot Watt. Although this limited embedding of learning into some of the libraries involved, it was a good example of using the managed programme approach to optimise the use of existing skills in key areas.

The ROADS project (Resource Organisation And Discovery in Subject based services) provided a software platform which allowed searching across multiple subject based services. This software was used by a number of the subject gateway projects (and has been used by organisations outside eLib). In some cases, such as EEVL, the ROADS software was not available in time to be used directly, although the systems were made to be broadly compatible and could be linked at a later date.

A more detailed example of a project in this field is given by the EEVL case study in Appendix C.

The total allocation to this eLib Programme area within eLib Phases 1 and 2 was £1,920,000. The distribution of this to the different access to network resources projects is shown in Figure 4.6.

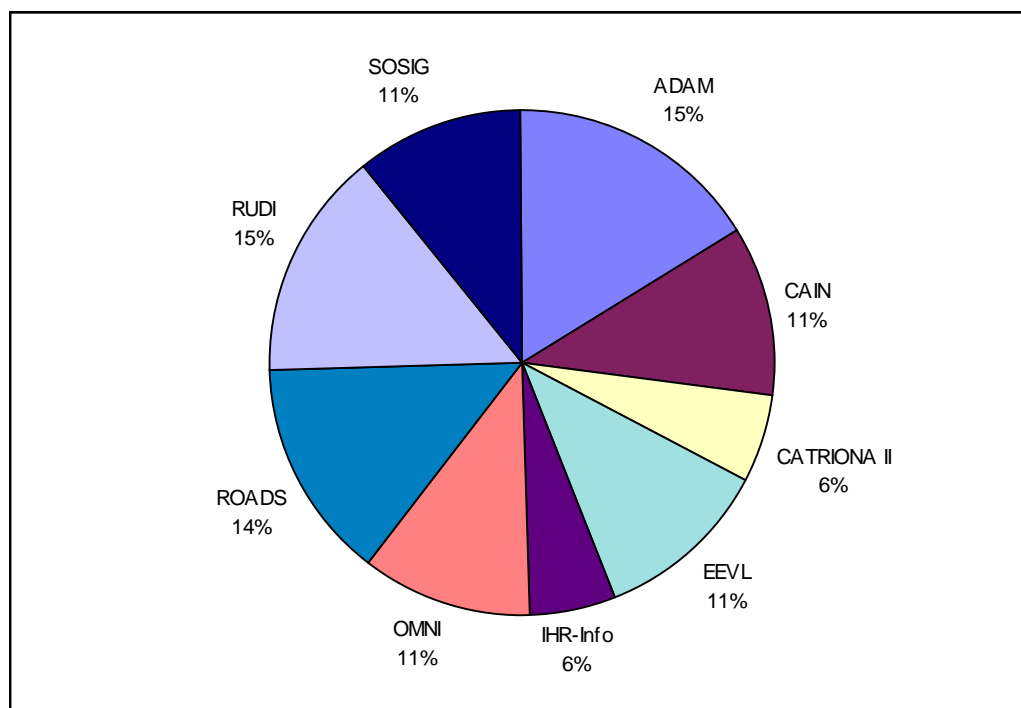


Figure 4.6: Distribution of funds to Access to Network Resources projects

4.6.2 Assessment

There was clearly a need for projects of this type to ensure time efficient use of network resources. Although the sophistication of the generally available Internet search facilities is improving, they still yield mixed results, particularly when the subject area is unfamiliar.

The main project type in this area is the subject gateway. These projects have led to new services in the form of the DNER, the National Resource Discovery Centre and subject hubs.

Progress has been achieved by taking the subject gateways providing faculty size portals. This method of taking the projects on was necessary because the project structure was not originally appropriate for national

services. This was difficult for a time because the projects were concerned that their achievements, in which they had invested by funding overheads, were being taken from them.

Examples of successful projects were EEVL and SoSIG. The latter is now under a new regime as a portal, and part of a national service. Some projects with poorer exit strategies did not manage to achieve continuing services.

Updating the information within these projects is an issue which is particularly important. There are many examples in other fields of projects which have provided a valuable snapshot which rapidly loses its value as references become outdates or are replaced.

4.6.3 Successes

The projects in this area mostly worked well and meet a clear need in the user community. These projects represent a stable and coherent element of the eLib Programme and the projects have contributed to the development of the DNER.

There was an important contribution of ROADS, which was a good example of concentrating resources on a specific technology as part of the managed programme.

Usage has been very high for some projects, SoSIG has some 500-700 user accesses each day. 60% of usage is educational, 22% is commercial. UK usage accounts for 50%; rest of Europe 11%. There has also been significant interest in mirroring SoSIG in the USA.

SoSIG has created over a hundred major resource description records; areas of particular strength are economics, women's studies and development studies

4.6.4 Problems

The business models for on-going services are not clear, ie there is no obvious mechanism to achieve self-sustaining status. It was thought that it might be possible to enter agreements with major Internet service providers, but this did not materialise.

The cost of achieving quality services is high suggesting the need for a 'super project' which has been taken up under the Resource Discovery Network.

The subject based approach was accepted without debate and without testing alternative approaches.

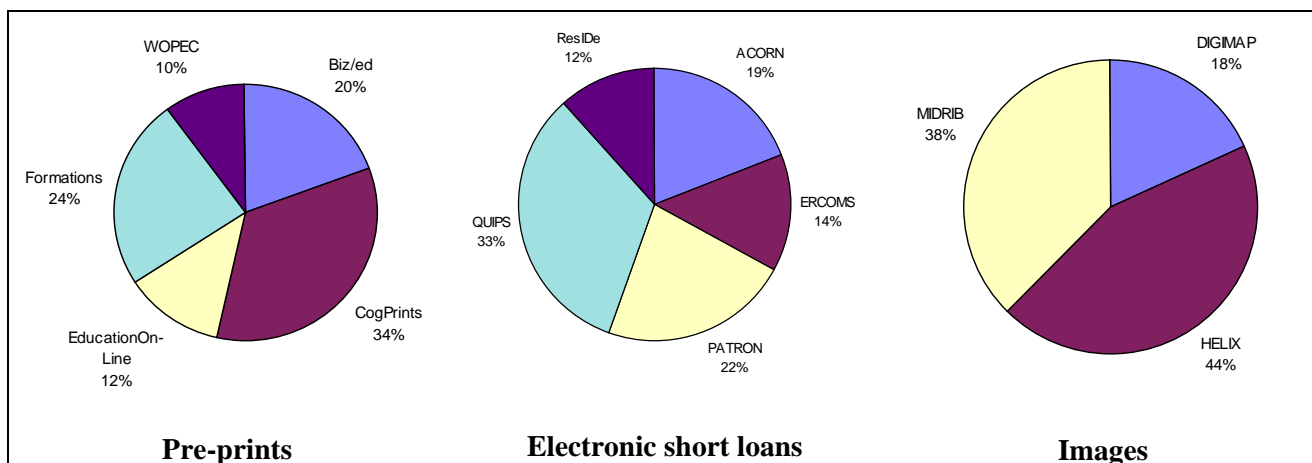
The extent of the links between these projects and commercial suppliers of this type of information could have been greater. Many of the services have commercial potential, or could make use of commercially available components.

4.7 Phase 2 Programme areas: Pre-prints / QA / Electronic short loans / Images

The total allocation to this eLib Programme area within eLib Phases 1 and 2 was £2,440,000. Of this, the allocation to the four main areas were as follows:

- Pre-Prints: £655,000
- Quality Assurance: £105,000
- Electronic Short Loans: £650,000
- Images: £1,030,000

The distribution of this to the different Phase 2 projects is shown in Figure 4.7.



**Figure 4.7: Distribution of funds to Phase II projects
(only one QA project was funded - ESPERE)**

Pre-prints and quality assurance project areas were closely linked to the electronic journal projects. In the first case, there were useful models already in the well used Los Alamos Physics pre-prints service which reflected the subject specific enthusiasm for this type of early access. There were also some strong supporters of specific models in the UK which were given an opportunity in projects such as CogPrints. Only one QA project, ESPERE, was funded under this call.

The electronic short loans were closely linked to the on-demand publishing (ODP) work in Phase 1, the shared aim being to provide resource material for courses. The specific aim of electronic short loans is to reduce the burden which librarians have in managing the limited availability of recommended course reading. The value of electronic resources, which can be available to multiple users simultaneously is clear, although solving the problems of copyright and digitisation remains as difficult as in ODP.

The fourth project area was imaging, which covered medical imaging, mapping information and management of large image resources. The MIDRIB project, which was allocated 38% of the resources in this area, was not successful because of management and consortium related difficulties. eLib pulled out from this project.

4.8 Supporting studies

This area was more influential than predicted. It was set up because it was thought important to analyse the progress and results of the projects, but in fact many of the studies were profoundly influential in relation to the budgets provided for the studies.

The total allocation to this eLib Programme area within eLib phases 1 and 2 was £510,000. The distribution of this to the different electronic document delivery projects is shown in Figure 4.8.

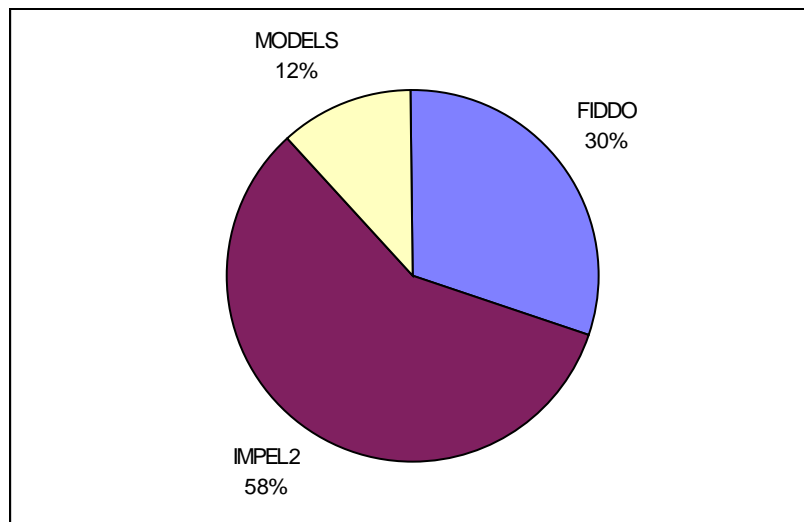


Figure 4.8: Distribution of funds to supporting studies

A good example of this process was the MODELS work, undertaken by UKOLN. This modest supporting study, which undertook a series of workshops, provided the following key inputs to the eLib Programme:

- information models and architecture
- a new language to encapsulate the work
- standards / guidelines

This work can be shown to have led to important aspects of eLib Phase 3, such as the CLUMPS work. It also formed part of the participation / dissemination process.

The other two studies listed in this area were both user oriented. FIDDO (Focused Investigation of Document Delivery Options) looked at systems from a user perspective, gathering data on use of traditional document delivery systems, trialing different systems and getting feedback, then analysing information strategies and success rates.

IMPEL2 (IMpact on People of Electronic Libraries 2), the largest supporting study, built on the work of the pre eLib IMPEL project, which sought investigate the social, organisational and cultural impacts on academic library staff of working in an increasingly electronic environment.

IMPEL2 involved 28 universities and colleges and linked 5 strands using qualitative methodologies to take forward the understanding of change in academic libraries. The 5 project strands were as follows:

- a staff study
- a user study
- a resource based learning study
- a staff development and training study
- an evaluation of the EduLib and Netskills projects

The comprehensive findings of IMPEL provide valuable information on the issues which eLib has embraced. These are neatly summarised in the following quotation from an article in Ariadne, another eLib project¹⁷

IMPEL2 has found examples of a 'cultural lag' in which the most rapidly changing part of an institution, often the Library and Computing services, forges ahead, leaving the rest of the organisation struggling to cope with the changes left in its wake.

¹⁷ Jim Huntingford, Academic Librarian University of Abertay Dundee. Ariadne, Issue 13, January 1998.

But what do the findings of IMPEL2 tell us about the institutions which have most effectively managed the move to the world of electronic learning?

Fundamental to success is an understanding, at the highest institutional level, of the potential benefits of information, educational and networking technologies to institutions and HE in general. Such understanding may be realised more quickly in institutions where the top librarian has status in the senior management group. Strong central initiative and support helps to facilitate the design and operation of a more coherent and effective service. Without top-level support IMPEL2 found that initiative and direction were commonly felt to be lacking.

The crucial factors were perceived to be institutional support, access to technology, a comprehensive information strategy, communication at and between all levels, project management and teamwork. As in all change management a commitment to learning and training and the on-going support provided by a specific staff development budget were seen to be essential.

4.9 Areas tackled outside Programme definitions

The main issues of concern in this area are copyright and the approach of the publishers and standards. Taking copyright first, these were major influences on the project successes achieved as well as a major constraint on the pace of development.

The importance of copyright was clearly identified in The Follett Report. Copyright was not a specific recommendation to be taken up by eLib but it was thought important to address it. Copyright was also the subject of a recommendation in the Dearing report.

It was never thought that eLib could re-engineer the copyright system. Both publishers and library community were worried about copyright. eLib did, however, give the library community a new confidence and language to deal with the issue.

There is little doubt that eLib had an impact on the copyright situation, but this was not achieved in isolation. For example, in addition to eLib, some members of FIGIT were also involved in a joint working party which had four working groups. These had a profound influence in the following areas:

- developing model contracts for digital publishing
- experiments with digital architectures
- provided definitions of fair dealing in an electronic environment
- definitions of fair dealing for electronic document delivery

This working group had its genesis in the eLib Programme and it raised copyright as a major issue within JISC. Other copyright initiatives with links to eLib include the Pilot Site Licensing Initiative and the National Electronic Site Licensing Initiative (NESLI).

An important role played by eLib was to initiate thinking on how copyright should be dealt with in an electronic environment. For example, the issues raised by the on-demand publishing projects in obtaining clearances led to the development of better systems for clearance. Some of the projects found that clearances of the type required had not been requested before. By acting as a catalyst in a number of areas in this way, eLib helped to initiate progress in this important area.

4.10 Summary

eLib covered most of the key development areas associated with electronic libraries and as a result its programme areas tackled a variety of different issues, each with its own specific aims. It was always clear that the results would differ significantly between areas. For example, sustainable services were more likely

to emerge from the document delivery projects than the electronic journals area.

By comparing the results of the projects to the original objectives of the eLib Programme areas (cf section 1.3), it is clear that most of the aims have been met to some degree. The aims where least progress was made tended to be those related to changes to the overall HE library sector, such as:

- electronic journals: significant space savings in HE libraries
- on-demand publishing - reduction in pressure on library materials

These are long term aims and the main obstacles are working methods which are slow to change. Although the impact of eLib was limited, it has helped to initiate a process of change which should see these fulfilled eventually.

Some projects have experienced delays in the provision of software, especially where this software has been developed within the project. These have normally resulted from underestimating the amount of development work needed. In some cases, the problem lay within the internal IT infrastructures. It is notable that one of the most successful projects in the technologically challenging area of electronic document delivery was prevented from undertaking its own software development at the proposal review stage.

5. IMPACTS, BENEFITS AND VALUE

This Chapter draws together the broader impacts and benefits of the eLib Programme. These represent the combined effect of the work in the different Programme areas as well as direct impacts on the community as a whole. The issue of value is considered at the end of the section when the Programme achievements have been reviewed.

The topics covered in this Chapter are difficult to quantify, in some cases difficult to define and many are the subject of on-going academic study and debate. As a result, it has been necessary to adopt a qualitative evaluation approach. This is based on the findings of the interviews, literature reviews and discussions with representatives of the different communities involved and affected. In general, statements and value judgements are based on a consensus of the available material. The interviews were conducted using a framework within which open questions were asked in relation to Programme impacts. In some cases, valuable observations have been made by a small number of contacts and these have been reported where they contribute to the analysis. Ultimately, the results of the evaluation are the opinions of the evaluation team based on the material available.

In covering the issue of impacts and general community benefits, it is particularly important to draw attention to the time factor. In an environment where publisher contacts suggest five years as a typical period required to establish a new journal, the time lag between projects and their impacts must be taken into account. In particular, there is an important latency between changed perceptions and skill levels on the part of individuals and broader changed working and investment patterns within their organisation. Although about more than a year has passed since the last of the Phase 1 and 2 projects was completed, only limited tangible effects could be expected at this stage. Full library statistics are not yet available to describe the situation in 1999.

5.1 Overall cultural impacts

One of the primary benefits envisaged from eLib was helping to bring about cultural change in the library community and the wider community within HE. This is a difficult concept to define and to measure and there have been a number of attempts to do this both within supporting studies¹⁸ and the formative evaluation¹⁹. This evaluation does not seek to add to the formal definitions, but some indications of scope are provided as an outline. Some common elements may be considered to be:

- awareness - when suitable opportunities arise, the use of electronic methods will be considered and viewed more positively
- understanding - increased knowledge of electronic techniques encourages more effective targeting of their use and more effective implementation
- organisation - individuals may seek to change approach, but generally this can only be achieved through structural and institutional changes.

The majority of sources indicate that eLib has contributed to a major shift in the agendas of librarians, publishers and HE institutions in relation to the appropriate use of information technology and copyright issues. It is clear from interviews with representatives of all these groups that eLib has led directly to a better understanding between the library community and the publishers, and the library community and HE IT services. It has also influenced academic staff, though to a lesser extent, by introducing new information resources and methods to support teaching and learning. It has changed the percentage of library budgets spent on electronic resources in terms of staff time and purchases, changed the number of library staff interacting with electronic resources, helped to create new senior posts in Information Services and focus international attention on the strategic importance of information.

¹⁸ Davies et al, Early impact of eLib activities on cultural change in higher education, eLib supporting study, July 1997

¹⁹ Tavistock Policy Mapping Study, 1996

Awareness of eLib in the library community is high, not only in the UK, but also internationally. This is important because the market for HE services is increasingly international and the visibility provided by eLib enhances the competitiveness of the UK position. The adoption of a national strategy is considered to have paid dividends with eLib, which has had good ownership in the community and was not seen as a threat by most parties.

The eLib contribution to cultural change has been both indirect, through the various projects and the large number of organisations engaged, and direct, through the awareness and training projects which are considered to have been successful.

One of the most important impacts is that practical experience has been gained throughout the sector. The strengths and weaknesses of electronic methods are better known as a result and their application is therefore better targeted and more effective. There is little substitute for 'learning by doing' and eLib has provided many with the opportunity to gain expertise in this way.

Some key examples of the impacts of eLib are given in Figure 5.1.

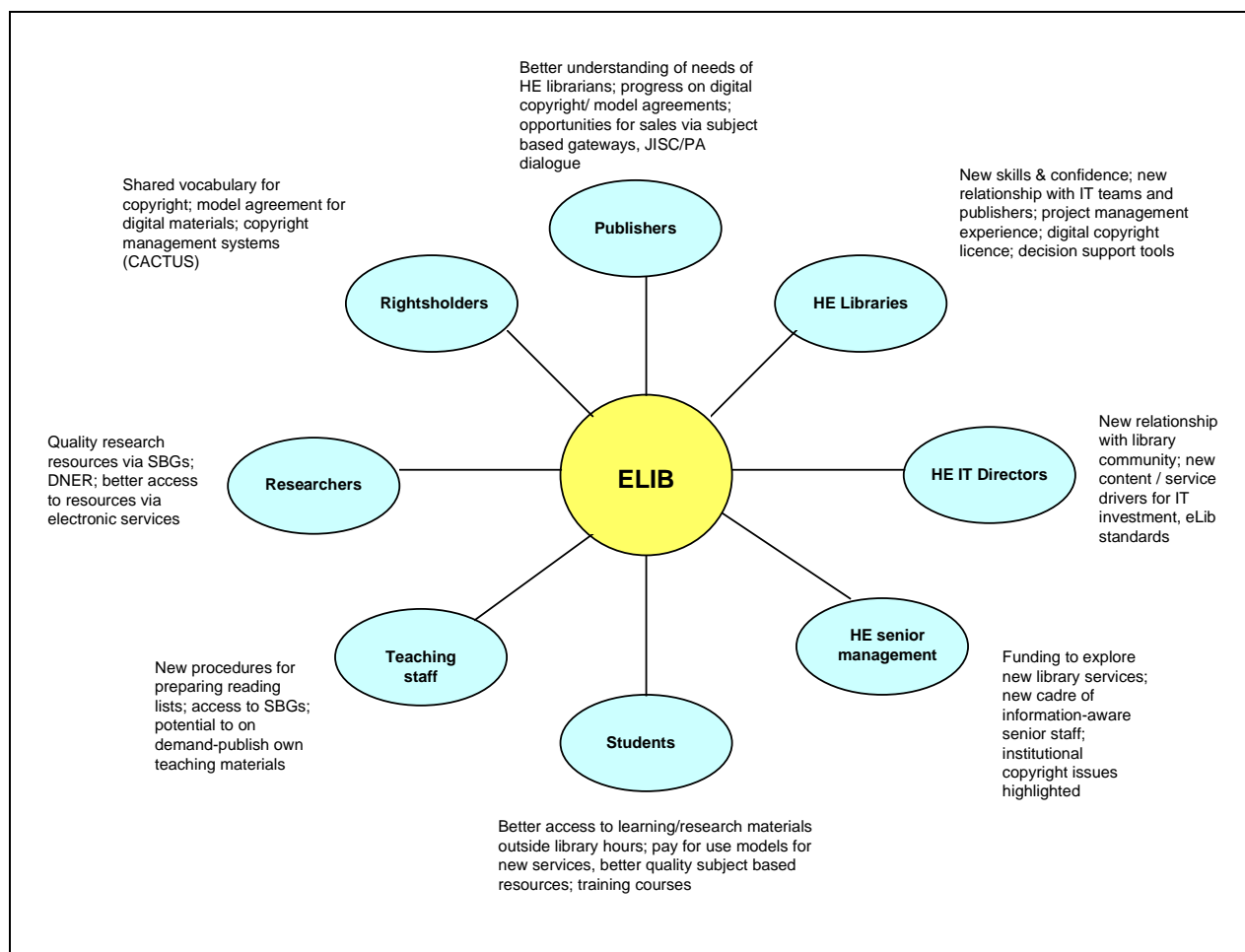


Figure 5.1: Examples of eLib impacts on the HE and publishing sectors

5.2 HE Library impacts

5.2.1 Library profile and strategy

The eLib Programme helped to give a continuing and developing role to the HE library community, whose position in the early 1990s was uncertain because of the unknown impact of electronic methods. This has been an important contribution in a period where the links between libraries and computing services have generally become closer, with the importance of information being emphasised in relation to the technology used to access it.

eLib raised the profile of library and information professionals within HE institutions. A number of pro vice chancellors are now from the library community, indicating the increasing importance being attached to content in the provision of information strategy as well as the expertise in management gained. Contacts confirmed that eLib has contributed to this development.

Input from case studies and interviews with other project participants have confirmed that eLib helped to create a project based work culture in HE libraries, enabling them to take advantage of funding opportunities which require bidding, team building and other aspects of project working. This has also promoted greater integration between the libraries and the academic communities which they serve. Service remains the key, but librarians have always been skilled in this. Project based work provides the means to develop the nature of service provision. It is interesting that this effect of eLib was noted by a senior HE manager as leading to a higher quality of proposals received in later programmes such as the Research Support Libraries Programme (RSLP). eLib has also created a much stronger partnership between JISC, the Funding Councils and the library community in HEIs.

The lessons learned in eLib are clearly of value to library managers and those involved in planning strategy within HEIs. There is a considerable body of information available from eLib which describes these issues, but a synthesis at an easily accessible level is still needed. It has been suggested by a senior librarian that such a synthesis could take the form of a practical checklist to help optimise decision making at key investment decision points. This suggestion has also come from some international “followers” of eLib who find it difficult to extract at a high level the lessons learned from eLib.

5.2.2 Library operations - costs and space

At the time The Follett Report was published, there were expectations that information and communications technologies would allow major cost saving to be made in libraries. It was also thought possible that space savings might be possible. Specific reference to this was made in the objectives for electronic journals, given in Section 1.3. eLib was therefore expected to contribute to these areas in parallel with the other initiatives which emerged from the Libraries Review, such as the major building programme.

Sources such as the SCONUL Statistics Database²⁰ show the beginnings of some of the expected changes, although the levels of impact and their causes are not yet clear. The relevant statistics are as follows:

- *Visits per potential user:* 9% decrease from 1991/92 to 1995/96 with a 16% decrease between 1995/96 and 1996/97 (particularly marked in older Universities). These changes have been partly attributed to changes in the questions asked and increased numbers of student nurses, but it is also acknowledged that increased use of electronic resources has also played a part.
- *Information provision expenditure:* a change in the categorisation allowed the spend on electronic resources to be identified and showed that in 1996/97, about 10% of spend on information provision was on electronic resources (including CD-ROMs and remote information sources). This change coincided with a sharp fall in serial costs from 1995/96 to 1996/97 although this latter change was also partly linked to the change in categories.

²⁰ The SCONUL Statistics Database, Creaser and Scott, March 1999, LISU, Loughborough University

The same statistics also show that the number of inter-library loans as a proportion of total loans was unchanged (suggesting no major trend from holdings to access) and that total library expenditure per full time student had increased from £239 in 1991/92 to £271 in 1996/97. The latter change was coincident with a fall in the proportion of library expenditure on staff from 53% in 1991/92 to 49% in 1996/97.

The specific objective of significant space saving from extensive backrun disposal following digital archiving was an ambitious objective within the timescales of eLib Phases 1 and 2. Electronic Journal projects such as SuperJournal emphasised the importance attached to digitised backruns for user acceptance, but other eLib projects demonstrated the very high cost of the digitisation process. The impact of eLib in this area has been more limited than parallel initiatives such as JSTOR, a US initiative specifically intended to ease the problems faced by libraries seeking to provide adequate stack space for the long runs of backfiles of scholarly journals. JSTOR was established as an independent not-for-profit organisation in August 1995. JISC has now established links to JSTOR and there are almost 40 participating sites in the UK HE sector.

Overall, it is difficult to demonstrate a clear eLib impact on library costs and space, although some early signs of change are evident. eLib projects in areas likely to impact space and cost, such as digitisation and electronic journals tended to concentrate on developing new approaches, increasing understanding of user requirements and establishing the credibility of the approach in the HE community. It is therefore important to emphasise that the statistics currently available (to 1996/97) do not extend to the period when eLib's impact would be expected to occur, which would be after a time lag of a few years from the end of Phase 2 in 1997/98. eLib Phase 3 projects have achieved greater scale in a number of key areas and are likely to provide a clearer impact in these areas.

Several interviewees, when asked what eLib failed to address, cited the issue of digital archiving, noting that progress here would have had a direct impact on budgeting and space planning.

5.2.3 Library issues - staffing

An important issue affecting programmes such as eLib is how to 'embed' top down initiatives into the day to day operations of the organisations the initiatives are designed to help. The same issue was faced by the TLTP Programme. The issue is made more difficult where there are already considerable pressures on existing staff to serve a growing user base with limited resources. Several interviewees involved directly in projects felt strongly that the use of temporary staff to undertake the project work ran the risk that the experience gained would be lost, if not to the sector then at least to the library itself.

The eLib funding conditions required the institutions to fund their own overheads. As a result, there had to be a degree of organisational commitment to the success of projects. The libraries involved in eLib projects have certainly attempted to achieve the embedding. For example, many have tried to retain the eLib staff where the opportunities to do so arose or could be created.

The comment has been made by one of the project teams interviewed that it is not obvious that eLib has managed to engage senior library managers, who are too busy with day to day activities to introduce major changes. The impact here might thus be limited to developing expectations of what might be possible. The library managers with whom discussions have been held and who have been involved in managing eLib projects have clearly engaged with both the technical and practical issues associated with developing electronic resources.

Virtually all interviewees confirmed that eLib has helped to create a new cadre of "electronically aware" librarians with practical experience of research projects. These skills, and by implication at least some of the investment, may be lost to the HE sector if eLib activities are not sustained in some form. Not all valuable eLib activities had realistic prospects of becoming economically self-sustaining, some because of the research and development aspect of the Programme, others because an effective funding model did not emerge.

The high levels of employee turnover and skills loss from employing part time staff on projects was a major problem for many projects. This is not a new experience for HEIs, but in the context of a Programme that sought to achieve cultural change and to embed new methods it is a major consideration. To some extent this problem was alleviated by the flexibility and understanding both on the part of the eLib management and on the part of library managers. Consideration of strategies for retaining key staff trained under programmes such as eLib would help greater levels of value to be achieved. This is linked to the economics of the 'exit strategy' approach.

In addition to the embedding of staff from eLib projects, it is important to note the important contribution of eLib training and awareness projects to the skills of existing staff, a factor noted during interviews with librarians. Overall it may be judged that has been a valuable contribution to the skills and awareness of library staff. The embedding of staff from projects at the library level was good given the constraints that existed.

5.2.4 HE library co-operation

Academic librarians have always co-operated to ensure that optimal services are provided to staff and students. There are problems in formalising such systems because each library is committed to supply its own community and cannot rely solely on other libraries, whose circumstances may change.

There has been a significant improvement in the scale and extent of library co-operation in areas such as sharing resources and setting up centres of excellence. LAMDA and the subject based gateways are very good examples of this, but there are many others. The increased levels of interaction promoted by eLib allow for greater networking and co-operation in the future. This is a successful outcome of the decision to engage the community as a whole by encouraging broadly based consortia.

Improvements in co-operation in the area of research support must be seen in relation to the work following from the Anderson Report, which has also funded activities to support library co-operation. Within this, eLib took forward a programme to develop an integrated system of networked OPACs.

5.2.5 British Library co-operation

In addition to general library co-operation, the issue of co-operation between the HE sector and the British Library has arisen in many areas tackled by eLib. The relationship at the end of eLib appears much more positive than at the start. Some of this change can be attributed to the completion of the new British Library building at St Pancras, which has removed a major draw on British Library management time and resources. It would also be true to say, however, that eLib has led to greater understanding on both sides, especially in the document delivery area. It has provided the BLDSC with a useful benchmark and has shown the HE community that providing rapid and economic document delivery services is not an easy task.

The links between eLib and the British Library have remained distant through most of the Programme. No clear mechanisms were ever developed to provide for the British Library's participation within eLib. In particular, the vertical funding barrier made co-operation difficult to achieve. There are also differing views on the relationship to the British Library. Although most recognise the need to provide effective competition, there are those who would have preferred to see closer links with the British Library, being such a major player in the field.

The views of the British Library on its links with eLib may be summarised as follows:

- The British Library should have been more engaged with eLib, though there was some involvement at the project level, such as with EDDIS and SuperJournal and links through organisations such as UKOLN which receive funding from both sources. During 1992/93, the time eLib was established, 80% of management time at the British Library was allocated to building issues.

- Relations between British Library and the HE sector in the early 1990s were not always positive and there was an anti British Library attitude in some circles of the HE sector.
- A major area of contention was the costs of the BLDSC service. Links are much better now and a joint working party with JISC has been established, tackling aspects such as a research model for document delivery.
- In terms of electronic developments generally, the British Library cannot react as quickly as an HEI library because of its size (perhaps fifty times as large as a typical HE library). Developments in this area are proceeding and agreements with publishers for electronic use have been established.
- With the completion of the building and British Library developments in electronic service development, the prospects for improved co-operation with the HE sector are much improved.

5.2.6 Service development

The need for consideration to be given to exit strategies was emphasised in the original objectives of eLib because the nature of the Programme was to initiate a process of change which would eventually have to be taken up by the user communities. JISC funding was clearly necessary to stimulate this process, but could not be guaranteed indefinitely. This meant that institutions would have to take on projects designed to provide benefits across the HE sector which would continue after the end of eLib. This is emphasised by comments that the pulse of interest in libraries generated by eLib may be gradually starting to fade. Services are the best way to maintain this momentum.

On-going services established from eLib include LAMDA, subject gateways such as EEVL and SoSIG and training programmes such as NetSkills. The extent to which such sustainable services should emerge directly from eLib projects was not defined in the objectives. A much clearer picture emerges if the contribution of eLib projects to the development of subsequent programmes is taken into account. This suggests that the anticipated timescales for service development were optimistic.

Project sustainability requires critical mass. This suggests that building scalability into projects is important, but an adequate initial scale is also important. It is clear that many eLib projects found it difficult to achieve the critical mass necessary to become full services in their own right. This problem might have been obviated if a smaller number of larger projects had been funded, although this would have been offset against the importance of engaging the broader HE community. On balance, a slightly greater degree of project concentration might have been optimum.

The Programme's stated ambitions, although necessarily vague, were still unrealistic in their expectations of self-sustaining services emerging. If JISC had identified self-sustaining services as the primary aim, it might have set up the Programme to take advantage of more commercial opportunities and concentrated on key bottleneck developments.

No overall economic model was available to support the approach adopted in this area. This was in spite of repeated attempts to find economists prepared to undertake a supporting study. There is a clear need for work of this type to support the development of strategies built on eLib. It is noted that work in this area has now been undertaken.²¹

5.3 Impacts on the HE community

eLib has contributed to raised expectations of the availability of content in electronic form in parallel with greater on-line catalogue availability. HE users generally expect to be able to access a much wider range of information now and through eLib Access to Network Resources (ANR) projects, are able to obtain it more efficiently.

²¹ Halliday and Oppenheim (1999) Economic Models of the Digital Library, eLib Phase 3 Supporting Study

Academic use of library buildings continues to change as these users get more information services direct to their desktops while undergraduate use of university libraries is increasing. It has been observed during interviews that photocopying figures have not shown any signs of reduction to date. In fact, the costs charged to students for photocopying and laser printing are similar. This suggests that traditional methods of information gathering remain heavily used, with electronic means supplementing these. Some of the most visible eLib projects have been the ANR projects, with a high profile among students and to a lesser extent among academics. These emphasise the importance of project visibility at the desktop.

eLib has tried to engage academics, particularly through the on-demand publishing (ODP) projects, but has found considerable conservatism. This may be the result of the perceived threats to existing work patterns, a desire not to spoon feed students or simply that the time, resources and incentives for academics to change their approach are not available. The effects of this project type vary according to the type of HEI. Elements of cultural change differed according to the origins of the organisation and the ways in which they linked library provision to academic courses.

eLib has helped many in the HE sector to appreciate that publishers do perform an important function and have a positive role to play. This is part of a much improved mutual understanding of roles which has resulted from participation in eLib, confirmed in discussions with publishers representatives as well as eLib project teams.

Despite there being huge pressure on teaching departments, eLib has not directly released value and provided the content needed to meet growing demands. This is because of the difficulties encountered in the take-up of material from ODP projects. Copyright and lack of academic participation remain as major outstanding issues, but the fact remains that in this area eLib has engaged in a much wider debate and fundamental issues have been explored.

Although the initial drive for the Libraries Review Group was a need to provide better services and facilities for undergraduates, eLib in fact has not changed teaching and student work patterns substantially. Early, unsuccessful attempts to merge the Teaching and Learning Technology Programme (TLTP) with eLib might have led to much better outcomes for teaching and learning. Similarly, the TLTP and CTI programmes have not addressed delivery issues and there has been very little interaction between them and eLib.

The difficulties of measuring impacts on the broader HE community are considerable. In this evaluation, the case studies have been helpful, as have some of the eLib supporting studies and formative evaluation work. Nevertheless, the task remains difficult and it has been noted that work in this area has been undertaken by a joint CALT / CEI working group with the following terms of reference:

- to discuss evidence on patterns of take-up and use, including non-use, of JISC's networked information services to better inform market activity
- to explore the mechanisms by which the use of networked information services can be embedded into the customs and practises of HEIs and users
- to consider any studies or workshops in order to develop a forward model for such work

A key finding of the initial work of this group was to establish a framework including the following characteristics:

- a (survey) mechanism for periodically measuring and evaluating the overall awareness, uptake, usage and usefulness of information technologies and information services in UK HE. Differences should be examined at discipline and sub-discipline level, to see how such services fit within the changing information seeking behaviour of students and academics.

- a linked programme of ongoing (longitudinal) applied research on the information behaviour, needs and opportunities for specific academic and student communities and for academics and students in general.²²

The availability of such a framework would make it easier for projects to monitor their own impacts without having to develop their own methodology. In addition, the use of a standardised methodology as far as possible would allow for more consistent monitoring across both projects and sectors.

5.4 Impacts on publishers and rightsholders

There has been considerable publisher involvement in the eLib projects, directly in projects such as the electronic journals and indirectly by providing clearance for other activities. Publisher involvement in initiatives such as the Pilot Site Licensing Initiative and NESLI have also been encouraged by eLib involvement.

eLib work in electronic journals has had an important impact on some specific application areas and has influenced the approach used for electronic publishing. The library community was placed in a position of greater strength because they could help to shape agendas. Although there have been specific projects which have contributed to changes in high level attitudes of publishers to electronic publishing and copyright, the greatest effect has been the subtle impact on the large number of people from the publishing community who have had contact with eLib. The impact on the sector as a whole has been limited because the scale of the projects was generally too small. Important user profiles have been gained from SuperJournal which are of considerable value to support publishers' marketing efforts.

The emphasis in eLib has naturally been on the publishers learning the requirements of the HE sector. It is important to note that publishers themselves have been going through a learning period in parallel with eLib and in their case their whole future depends on appropriate strategic decisions. The JISC/PA Working Parties were perceived by many interviewees as important in creating a forum to discuss issues of shared concern across eLib.

Important lessons have been learned through eLib in the area of copyright and licensing. In particular it has helped publishers to develop their understanding of HE sector needs and to improve clearance procedures. There has been a multiplication in the number and types of clearance required. There is a need to move towards a more uniform situation, but this is unlikely to occur until a common publishers' view of market developments emerges. Until then, a need has been identified for a national resource bank of digitised and pre-cleared material. This would be needed particularly to support the development of ODP applications which are central to the changes in learning patterns which eLib has sought to influence. The Pilot Site Licensing Initiative and its successor, NESLI, go some way towards meeting these needs. eLib has contributed to key elements of these developments.

5.5 Commercial impacts

Commercial organisations involved in library systems work have been involved in the eLib Programme, although the extent of this involvement has been more limited than might have been expected given the objective of long term service development. There are examples of products from eLib being taken up commercially, but this has been uncommon.

eLib has had the effect of making HE a more discerning customer. It has also begun the process of clarifying where the sector will go, thus allowing commercial parties to plan and invest with greater confidence.

²² CALT/CEI Joint Working Group on Use and User Behaviour, Final Report, April 1998

Although links with commercial organisations have not always been easy within the Programme, closer links might have provided a means to improve the sustainability of projects.

5.6 Public impacts

eLib did not set objectives in the public library sector and there was very little impact in this area. The public library sector has however seen what is possible under a national programme and work is now in progress through the Library and Information Commission to develop a new programme which addresses issues similar to eLib. The experience gained through eLib will thus be of value.

The wider impact beyond the HE / academic community may now emerge in the National Grid for Learning, and the National Libraries Initiative (public libraries). Some key people involved with the eLib Programme are influencing these organisations.

5.7 International perception

eLib is not the only programme of its type, but it has gained considerable international recognition. This is an important achievement not only because it represents an independent view of the Programme's value, but also because it helps to establish UK credibility in an increasingly international market. One of the notable characteristics of eLib in this context is its pragmatic nature. Table 5.1 provides an interesting (if not entirely independent) comparison between eLib and the US Digital Libraries Initiative.

eLib	Digital Libraries Initiative
Existing higher education money	New money
More, smaller projects (60)	Fewer, larger projects
Library, publisher, user orientation	Computer science orientation – exact library orientation not always clear
Belief in libraries	Doubt about libraries
Approach geared to incremental change	Approach not intended to automate the status quo
Use of off the shelf technologies (eg OCR, IR, DBS)	Blue skies research on ICR, IR and repositories
Concerned with image access, metadata	Concerned with image / video understanding
Minor geospatial interest	Major geospatial interest

Table 5.1: eLib and DLI key features²³

The pragmatic approach has provided an effective transition into Phase 3 in which the hybrid library is a major focus of attention. Some examples of the international perspective from interview contacts and reviews are given below.

- USA - contact was made with US projects during the Libraries Review and no similar Programmes were found. The US still dominates many aspects of this area through organisations and standards such as OCLC and Dublin Core. Nevertheless, the national, managed approach of eLib was highly regarded by workers in the US and has led to a number of joint ventures, including a joint JISC / NSF Programme on Digital Libraries stemming from eLib Phase 3
- At the EU level, players linked to eLib such as Derek Law (Strathclyde) and Lorcan Dempsey (Director of UKOLN) were involved in drafting the Framework IV Programme on digital libraries
- Australia sought to develop a similar Programme to eLib and the UK experience has had a considerable impact. There was good co-operation and some direct Australian eLib involvement (eg JEDDS). eLib was seen as a very coherent strategic approach which accelerated the development of electronic resources in Australia. The Australian programme had no Programme Office in the eLib sense and this was considered to be a mistake as voluntary co-ordination efforts proved insufficient

²³ Rusbridge / Fresco 1997

- other locations, such as New Zealand and some Scandinavian countries viewed eLib very highly and maintained close links
- Contacts in Canada were very favourable and have gained value themselves in areas such as site licensing. Programme dissemination through the eLib web site was praised and the output from eLib has been of value. eLib is in the process of being used as a model there
- The UK experience with eLib has become an exemplar in the international library and information community, with the UK showing the way rather than learning from others. This has led to huge demand for eLib papers at conferences.

5.8 Value and economic benefits

JISC funds are effectively obtained by a deduction from the block grant which would otherwise have been paid directly to HEIs. The value of eLib therefore lies in this money having been better used through a national managed programme than being spent by the individual institutions themselves. Some of the achievements of eLib would have occurred without the Programme given the changes in the field of communications and IT which have taken place, but the added value contributed by eLib is clear from the following:

- coherence - the Programme gave co-ordination and structure to developments in this field
- comprehensiveness - the Programme allowed a wide range of different models and approaches to be tested. This range, which is unlikely to have been covered without eLib, allows much greater confidence in selecting approaches for future development
- coverage - eLib has ensured that a much wider range of HEIs had involvement with the development of electronic techniques than would otherwise have been the case
- creativity - the Programme engendered a creative tension from the competitive calls for proposals
- analysis - through the supporting studies, the formative evaluation and the dissemination process, the Programme was able to make sense of the different successes and failures
- practical experience - the Programme ensured that the library community had wide exposure to the implementation of electronic techniques
- dissemination - eLib ensured that lessons learned were widely shared throughout the sector avoiding unnecessary duplication of effort.

These benefits were achieved with a highly cost effective management overhead. The Programme Office consisted of between two and three staff during the majority of Phases 1 and 2. The time allocated by FIGIT members is not easy to access, but management costs directly charged to the Programme were small.

The original objective to reduce library costs has not been achieved by eLib except in limited areas. This is not surprising as very few technological developments provide cost savings in the first few years of availability. Value has, however, been achieved by providing better quality services and cost-effective reskilling of staff. This second effect is very important because it prepares the way for much more cost-effective operation in the future.

The investment of £15 million in Phases 1 and 2 of eLib has resulted in a number of important impacts, both in specific Programme areas and across the sector. The Programme has managed a very diverse set of projects and consortia with relatively low overheads and only a small number of project failures. Taking these factors into account and viewing the spend in the perspective of other programmes of this magnitude in the UK and internationally, eLib must be regarded as having provided good value.

6. STRATEGIC OBSERVATIONS

The achievements and impacts of eLib have important implications for both the strategy of JISC. This chapter considers these implications. This is followed by observations on how the results of eLib impact strategic issues for higher education as a whole.

6.1 Implications for JISC strategy

The JISC five year strategy (1996 to 2001) presents the objectives for the eLib Programme²⁴. These objectives were framed at a time when the majority of Phase 1 and 2 projects were in progress and therefore represent the final stated objectives before eLib moved into Phase 3 and beyond the scope of the current evaluation. The sections below consider the extent to which Phases 1 and 2 contributed to meeting these objectives.

6.1.1 Publishing

- *To promote change in the publication of journals and in the STM chain through encouraging new methods of formal and informal networked scholarly publishing*
- *To encourage better understanding by commercial publishers of the needs of the HE sector*
- *To develop the distributed national electronic collection and to ease access to networked information resources*

Whilst the first two objectives were largely met by Phases 1 and 2 of eLib which also made an important contribution to the creation of the DNER, it is clear that **all of these items are long term goals which will require continuing work**. It should also be noted that eLib has developed a mutual rather than one way understanding between the HE sector and publishers and this is reflected in examples of co-operation such as the JISC / Publishers Association Working Parties.

6.1.2 Delivery

- *To promote change in document delivery systems to enable learning materials to be distributed on a collaborative basis amongst universities*
- *To contribute, primarily through initiatives for document delivery and copyright, to lightening the burden on university libraries caused by the purchase of periodicals*
- *To make an impact on the delivery of information to staff and students in higher education by the exploitation of IT*

The impacts of eLib here have created the basis for completely new models for document and information delivery in the future. Document delivery projects have been largely successful in creating intermediate services between the services of the BLDS and those of the individual HE libraries. Services which have emerged are effective, although in some cases lack scale and find it difficult to maintain a competitive edge. Nevertheless, self supporting services have developed through careful nurturing from eLib and JISC. The emergent services have also contributed to new levels of co-operation, such as between London and Manchester (LAMDA) and in Wales (SEREN). The Access to Network Resources projects have developed the area of information delivery and have contributed significantly to the Resource Discovery Network. eLib has also contributed to the application of copyright to these areas, although a large task remains to develop stability. This field continues to move quickly, driven both by technology and user expectations and much work remains to keep up with this fast moving area.

6.1.3 Cultural change

- *To obtain measurable change in the skills, culture and understanding of the use of IT amongst library staff, information workers and library users*

²⁴ JISC Five Year Strategy, July 1996 (Appendix D Committee on Electronic Information (CEI) - Objectives for the eLib Programme)
NB - the sectional breakdown has been added for the purposes of this report and was not originally present.

- *To explore different models of the position of the scholarly community in the ownership of electronic copyright through practical experimentation and through dialogue with other interested parties*

Against the first of these objectives, there is little doubt that substantial progress has been made through eLib in addition to the general growth in awareness and skills which has occurred. Contributions have come directly from training and awareness, from direct involvement of more than 100 HEIs in the projects, but also from the extensive process of dissemination which has been a part of eLib.

In terms of impact on scholarly working, eLib has made progress, but this has been slower than expected. eLib's involvement here was ambitious because it tackled a much broader set of issues. In future programmes, it could be helpful to require explicit statements in proposals of how work will assist academic user communities. In some cases, the approach of requiring users to be involved in the consortium could also be beneficial. This approach is used by the European Commission in some areas of the Framework Programme.

6.1.4 Management and dissemination

- *To identify, promote and fund projects, all with specified milestones and deliverables, so as to make a significant contribution to the development of the electronic library*
- *To monitor all projects continuously against their agreed deliverables, and against other wider developments*
- *To produce regular reports on the progress of the Programme; to promote and publicise the activities of the eLib Programme and projects; to evaluate the overall impact of the eLib Programme*

eLib has been managed by a team which exhibits a high level of commitment at all levels. The management has been effective and sufficiently flexible to cope with changing circumstances. Clear guidance on reporting, evaluation and dissemination were provided to projects.

In some areas, the management team has been stretched as a result of the spread and scale of activities relative to its own size. This has meant that monitoring could have been tighter in some areas, but this would have required a larger management team and incurred higher costs.

The basic eLib model has therefore been successful, and represents a good model for future programmes. A possible modification would be to appoint a Programme Manager to support the Programme Director. This would allow the Director to commit more time to the strategic direction of the Programme while allowing for greater levels of monitoring and support for projects. Such an addition would not be inappropriate for a Programme of this size.

6.2 Implications for Higher Education strategy

The contribution of eLib to strategic issues can be summarised by presenting key outputs against the strategic issues stated in Section 1.2.

Opportunities to reduce costs and increase efficiency through innovative use of C&IT in learning and teaching, management and administration and in support of the research process

- eLib has explored a wide range of models for achieving these benefits and thus allows Phase 3 to take a better targeted approach to achieving them
- Phases 1 and 2 have effectively laid the groundwork for achieving these opportunities
- Much of the library co-operation initiated by aspects of eLib forms the basis for a more comprehensive networked approach to HE libraries in the future
- eLib has promoted the project culture within HE libraries, allowing them to make more effective use of this type of funding in future. In some cases, the library has become more integrated into its HEI through eLib involvement

Access to Education: pressures to increase participation in education from all sectors of society, especially to meet the needs for lifelong learning.

- Many aspects of eLib have contributed to opportunities for improved access to educational material. These include on-demand publishing, electronic delivery of material, improved library co-operation and networking and input to copyright and licensing initiatives
- Lessons from eLib are now being used for similar initiatives in the public library sector and can be applied in other application areas of similar scale, such as the health sector
- eLib has promoted the use of networked resources and thus helped to develop remote access to learning and to understand better the issues involved in delivering it. This has implications in the national context for applications such as 'Learn Direct' and the 'People's Network'.

Globalisation: the global nature of the Internet provides opportunities for foreign competition for UK students and for UK HEIs to attract more students from overseas. It also enables the JISC to change the way it facilitates access to information resources, utilising the greater opportunities for international collaboration

- Considerable international recognition has been achieved by eLib. This confirms the value of the Programme from an external perspective, but equally important is that it puts the UK in a prominent and respected position in an increasingly international marketplace
- There is an increasing realisation at the highest levels that the whole concept of HEIs is being challenged by the potential of the networked environment. This has implications for the diversity of subject coverage, for learning patterns and for the future structure of the sector as a whole. eLib through its high profile, has started to show where some of the options lie and to promote effective strategies for the future.

Strategic management of C&IT: a wider, more strategic vision of the benefits that C&IT offers higher education, and how the benefits can be realised, is required. Training and support for staff and students in C&IT skills is an essential precursor to greater development of opportunities.

- eLib has contributed directly through awareness and training, but also by providing a much improved understanding of the strategic opportunities and threats which face universities as a result of developments in this area
- eLib has helped to promote the integration of content with the means of supply and has led to a new appreciation of the role of the library within institutional information strategies.

7. CONCLUSIONS AND RECOMMENDATIONS

This report has considered the eLib Programme in terms of three areas, operation and management, outputs and achievements and finally impacts, benefits and value. This section draws together these findings. The conclusions are assessed as direct impacts on the sector during the course of the Programme. A set of overall conclusions are presented, followed by a summary evaluation which answers the questions set out in Section 1.4. The recommendations from the evaluation are then presented. Finally, two cross reference tables are given in Section 7.4 which relate the overall conclusions and the recommendations back to the relevant sections of the report.

7.1 Overall conclusions

1. It is clear from the consultation process that the eLib Programme was an appropriate programme which has been highly successful in achieving most of its aims. Overall, it is judged to have been successful and good value for the investment.
2. The structure of eLib provided good coverage of the issues involved in the development of electronic libraries. The summary achievements in the different eLib Programme areas are shown in Table 7.1 below.
3. A number of services have been established as a result of eLib projects, some of which are self-sustaining. The number of sustainable services is less than was hoped for at the outset. This reflects the exploratory nature of the work and the scale of individual projects, which in some cases made critical mass difficult to achieve.
4. eLib directly engaged 175 organisations in the HE, publishing and commercial supply communities. Of these, more than 100 were HEIs. Lessons learned in key areas by these communities will allow more effective future implementations and programmes. Some of these lessons have already been taken up in eLib Phase 3.
5. Within the HE organisations it involved, eLib has improved awareness and practical experience of the opportunities offered by electronic resources, allowing them to adapt more effectively to rapid changes in technologies and evolving user expectations.
6. In parallel with activities related to the implementation of the Anderson Report, which also emerged from the Follett Review, considerable developments in library co-operation have been achieved and the scope of this co-operation broadened. The links established promise well for future co-operation, which will help to optimise the use of library resources.
7. eLib has raised the profile of libraries within the HE sector. It has also given greater confidence to those responsible for investing in information and communications technologies within the HE library system.
8. eLib has achieved high levels of impact in the HE library community and developed changes in its culture. This applies directly to the application of electronic techniques but also in preparing libraries for a more project based funding balance and combining the R&D culture with library operations. The effects on broader HE activities such as teaching and learning have been more limited.
9. In some areas, such as electronic journals, the impact of eLib has been mainly limited to the HE sector, although valuable information on user requirements has been gained by publishers. There has also been a small amount of commercial take-up.

10. eLib has not made major cost savings or directly reduced pressure on library space. There was an expectation that eLib would address these issues, which were key targets for the Library Review Group, although to expect major impacts within the eLib timescales would have been optimistic.
11. Management of the Programme has been efficient and effective with the result that the number of project failures linked to poor project management has been small. It is noted that there has been a high level of commitment to eLib, not only from those running the Programme, but also many of those managing and implementing the projects. This reflects the high levels of commitment to service which have been noted among library staff generally.
12. Two important underlying activities have been the formative evaluation work of the Tavistock Institute and the eLib supporting studies. The former has produced benefits both directly in feedback during the Programme operation and also by providing a valuable document trail which, with the project reports make independent summative evaluation possible. The supporting studies have rationalised the findings of the Programme and have played an important role in formulating Phase 3 of eLib.
13. eLib has received considerable international acclaim, thereby increasing UK credibility in what is now an international rather than national marketplace. The fact that eLib has been used as a programme model in a number of countries reflects the soundness of the approach.

Programme area	Total cost (£)	No. of projects	Achievements
Electronic document delivery	2,285,000	5	<ul style="list-style-type: none"> Self-sustaining services established Important developments in library co-operation Commercial products have also emerged
Electronic journals	2,905,000	12	<ul style="list-style-type: none"> A variety of different approaches tested and important lessons learned, particularly user profiles Large number of publishers engaged Platforms developed which have supported NESLI.
Digitisation	500,000	2	<ul style="list-style-type: none"> Different models explored issues such as copyright and total costs Lessons used to develop a more centralised approach
On-demand publishing	1,775,000	7	<ul style="list-style-type: none"> Broad scope, tackling major issues of teaching and learning Student users found to be very enthusiastic Progress made with both academic conservatism and copyright Work developing through the eLib Phase 3 HERON project
Training and awareness	2,530,000	7	<ul style="list-style-type: none"> Improved staff skills and awareness Continuing services with good reviews from user communities Direct impact on library culture and development potential
Access to network resources	1,920,000	9	<ul style="list-style-type: none"> Services improve search quality saving staff and students' time Services now being developed as national services Contributions to DNER and National Resource Discovery Networks
Supporting studies	510,000	3	<ul style="list-style-type: none"> Successful in rationalising on-going developments Essential role in synthesising lessons from earlier eLib activities Highly influential in determining course for eLib Phase 3
Pre-prints	655,000	5	<ul style="list-style-type: none"> Important lessons learned from Phase 2 projects tackling specific gaps identified in the initial set of projects
Quality assurance	105,000	1	
Elec. short loan	650,000	5	
Images	1,030,000	3	
Total	14,865,000	59	<ul style="list-style-type: none"> Average project cost approximately £250,000

Table 7.1: High level summary of achievements in Programme areas

7.2 Summary evaluation

Four key questions were posed for eLib at the start of this report. These are answered below.

1) Did the Programme supply sufficient added value to justify the allocation of JISC resources - did eLib provide benefits which would not have happened otherwise ?

Yes. Given the state of knowledge at the start of the Programme it was important to undertake a programme of some description. Hindsight confirms this and in most cases suggests that the correct programme strategy was adopted. It is true that a number of developments would have occurred without eLib, driven by factors such as the rapid growth in general use of the Internet. All stakeholders in the HE information community have been affected by these developments and have had to respond. eLib represents an important part of the response. It has added value by balancing a comprehensive treatment of the issues with an approach which has directly involved a large proportion of the community. In doing so, it has brought a practical understanding of the issues to many key players which will allow future challenges to be met more effectively.

2) Did the adoption of a national, managed programme provide benefits compared to a more fragmented distribution of the funds to HEIs to pursue their own ends - was the right approach adopted ?

The choice of a national, managed programme has ensured that eLib provided coherent coverage of the issues facing the sector which would not have been achieved otherwise. Without the JISC structure and the co-ordination of the Programme Office, many of the benefits related to comprehensive coverage of the issues, improved understanding and preventing duplication of effort would not have been achieved. Taking eLib Phases 1 and 2 in isolation, a different programme balance with a much smaller number of large projects might have provided more sustainable services. In fact, the broad approach of Phases 1 and 2 has led to a smaller set of more concentrated activities in eLib Phase 3.

3) Given the structure which was adopted for eLib, was the Programme conducted effectively within this framework ?

The management of eLib was primarily the responsibility of FIGIT / CEI, the eLib Programme Office and the JISC Secretariat. Although the management was stretched by the large number of projects and the complexity of consortia, the Programme has been conducted effectively. Management at project level has not been explored in detail, but the evidence is that the number of project difficulties related to poor management has been small.

4) What has the impact been on the different stakeholder communities ?

The impact on the HE library community has been very high. The universally positive view of the library community should not be dismissed as an insider view - had the opportunity represented by eLib been wasted, the same consensus would not have been found. The very strong international support for the Programme also indicates a high regard among peer groups.

Impacts on other stakeholders have been lower, although there have been a number of useful benefits. Publishers had to move on in parallel with eLib for commercial reasons, but through their eLib involvement have developed more effective working relationships for the use of electronic services in HE and have gained very valuable information on user profiles. eLib's impact on the academic community has been slower because its work addressed a much broader topic where the pattern of change as a whole is slower. Nevertheless, the importance of this work is becoming increasingly clear to the whole HE community.

7.3 Recommendations

The following recommendations have been developed based on the findings of the evaluation.

- R.1 New programmes:** It is recommended that **JCEI should investigate ways to maintain the momentum of eLib and related successor programmes, in particular by looking for new cross sectoral ideas.** A number of contacts have noted that the interest and profile of libraries achieved by eLib has begun to fade. To some extent this is a product of the ‘pulse’ of investment which eLib represented. It would be valuable to regroup the current issues in the area and to develop a new programme to establish a new impetus. The work that eLib has done to improve the status of libraries as information content suppliers should provide a strong justification for this.
- R.2. Commercial links:** It is recommended that **the full range of models for commercial involvement be explored in future programmes.** A possible obstacle to the development of sustainable services from eLib has been the relatively low level of commercial involvement. Models might include strategic partnerships to create an environment in which a wider range of suppliers can emerge.
- R.3. Dissemination:** It is recommended that **the lessons learned in eLib should be disseminated to a broader audience before they become too dated.** This should include an executive / management report for senior HE staff, IT directors in public sector and international agencies. This could be linked to attempts to develop further the awareness of HE management through JISC ASSIST by producing a practically oriented guide to strategy implementation incorporating eLib lessons in the form of a strategic checklist.
- R.4. Service transition:** Where transition to self-sustainable / commercial products and services is specified as a primary programme objective, it is recommended that **JISC programme design should accommodate and support clear models to enable this.** These models should cover financial sustainability, but also key contractual issues for long term development. Models should be provided for projects which are clearly of value, but have no obvious means of achieving financial sustainability.
- R.5. Service transition and project scale:** Where transition to self-sustainable / commercial products and services is specified as a primary programme objective, it is recommended that **programmes should limit project numbers to ensure that sufficient resources exist to create critical mass.** These should be supported by smaller “research” projects or task forces and associated supporting studies. This recommendation reflects scale difficulties faced by some eLib projects, but acknowledges that service transition was not a universal priority within eLib Phases 1 and 2.
- R.6. Teaching and learning:** It is recommended that **future programmes in the electronic libraries area are better integrated with teaching and learning initiatives. Proposals should be encouraged to state applicability within academic departments and to include ‘end users’ in the team.**
- R.7. Collaboration:** Having completed a focused national programme in HE, **it is recommended that future programmes should look at closer collaboration with national agencies (British Library, MLAC) and international agencies (NSF, EU) to create collaborative programmes at a global level.** This would save duplication of effort internationally.
- R.8. Consultation:** It is recommended that there be **wider consultation prior to calls for proposals to ensure that R&D already completed in the market place is not duplicated.** In addition, more effort is needed to establish the state of the art and to provide available research materials to be shared across programmes before projects start development work.

- R.9. Evaluation:** It is important that eLib is evaluated as an entity and it is therefore recommended that **this summative evaluation be updated to include eLib Phase 3**. Many of the issues which have arisen in eLib Phases 1 and 2 have been taken forward in eLib Phase 3 and its associated JISC Programmes.
- R.10. Evaluation funding:** It is recommended that JISC **ensure that the cost of evaluation in future programmes is included in the call for proposals** and scaled appropriately to the size of the programme.
- R.11. User analysis:** The work of JCALT in providing a framework for monitoring users and user behaviour has been noted. This plugs a gap in eLib where projects individually had to create their own approach to user research (may have saved significant effort if such a framework had already been available). **It is recommended that the monitoring framework be developed as a tool to support future programme monitoring.**
- R.12. Management training:** Training for project managers is a topic which is common to an increasing number of JISC programmes. **Given the experience of eLib and previous programmes, it is recommended that central support be provided to the procurement and provision of this service.**
- R.13. Recruitment:** It is recommended that **projects allow for a realistic lead-in time schedule for recruiting staff when designing the programme.**
- R.14. Software development:** It is recommended that JISC ensures that **future programmes which require software development allow sufficient time for software versions to be produced which are suitable for operational services.**
- R.15. Programme financing:** Project milestones should identify lead-in times which may require a **change in the balance of funding between financial years**. This should be used to allow for greater flexibility in the spend profile where a clear benefit to the programme can be identified.
- R.16. Strategic issues:** eLib has tackled a number of areas of considerable strategic importance for the HE sector. **JISC should give attention to the strategic issues raised in chapter 6 of the main report.**

7.4 Cross references

7.4.1 Cross references from summary findings to main evaluation report

Finding	Primary reference	Secondary references
1. Overall	Overall assessment 5.8 Value	3.0 Operations and management 4.0 Outputs and achievements 5.0 Impacts, benefits and value
2. Coverage	3.2 Formation	1.3 eLib objectives 4.0 Outputs and achievements
3. Services	5.2 Library impacts	3.2 Programme type 3.3 Programme selection 3.4 Programme timing 3.5 Underwriting transition 4.1 Specific objectives in Electronic Document Delivery Appendix C Case studies (LAMDA, EEVL, SCOPE)
4. Inclusion	3.3 Project selection Appendix B: Organisations involved in eLib	4.4 On-demand publishing 4.8 Supporting studies
5. Experience	5.2 Library impacts	4.0 Outputs and achievements (project work) 4.5 Awareness and training 5.1 Overall impacts 5.8 Value
6. Co-operation	5.24 Library co-operation	3.3 Project selection (consortia) 4.1 Co-operation in electronic delivery 5.2.5 British Library co-operation 5.7 International co-operation
7. Profile	5.2 Library profile and strategy	5.2.3 Staff development 5.2.6 Service development
8. Other HE impacts	5.0 Impacts and benefits	5.2.1 Library profile and strategy (Project culture) Appendix C Case studies (all)
9. Non HE impacts	5.4 Impacts on publishers and rightsholders	4.3 Electronic journals 5.5 Commercial take up Appendix C Case studies (SCOPE, SuperJournal)
10. Costs and space	5.2.2 Library operations - costs and space	4.2 Digitisation 4.3 Electronic journals 4.4 On-demand publishing Appendix C Case studies
11. Management	3.0 Operations and management	Appendix C Case studies (all)
12. Analysis	3.6 Evaluation and documentation	1.3 eLib objectives (Tavistock Policy Mapping) 4.8 Supporting studies (eg MODELS)
13. External view	5.7 International perception	4.1 Electronic document delivery (JEDDS)

Table 7.2: Cross references from summary findings to sections in the main report

7.4.2 Cross references from recommendations to main evaluation report

Recommendation	Primary reference	Secondary references
R.1 New programmes	5.2.6 Service development	5.2.1 Library profile and strategy
R.2 Commercial links	5.2.6 Service development	4.1.3 Electronic Document Delivery 4.6.4 Access to Network Resources 5.5 Commercial impacts
R.3 Dissemination	5.2.1 Library profile and strategy	3.2 Formation 3.5.2 Programme Office 4.3 Electronic journals 4.5 Access to Network Resources 4.8 Supporting studies 5.7 International perception 5.8 Value
R.4 Service transition: models	5.2.6 Service development	1.3 eLib objectives 4.1 Electronic document delivery 5.2.3 Library issues - staff
R.5 Service transition: scale	5.2.6 Service development	3.3 Project selection 3.7 Summary
R.7 Teaching and learning	5.3 HE impacts	6.1.3 Cultural changes Appendix C SCOPE, EEVL
R.8 Collaboration	5.2.5 British Library co-operation	5.7 International co-operation
R.6 Consultation	3.3 Project selection 3.7 Summary	3.1 Origins
R.9 Phase 3 Evaluation	5.2.6 Service development	5.2.2 Library operations - cost and space
R.10 Evaluation funding	3.6 Evaluation and documentation	Appendix C: SCOPE, EEVL
R.11 User analysis	5.3 HE community impacts	5.0 Impacts assessment
R.13 Management training	3.5.4 eLib project managers	3.5.2 eLib Programme Office 3.7 Summary
R.14 Recruitment	3.4 Timescales	3.5.4 eLib project managers 4.5 Awareness and training 5.2.3 Library staff impacts
R.12 Software development	4.10 Summary	4.1 Electronic Document Delivery
R.15 Programme financing	3.3 Project selection 3.4 Project timescales	
R.16 Strategic issues	6.1 Implications for JISC strategy 6.2 Implications for HE strategy	

Table 7.3: Cross references from recommendations to sections in the main report

APPENDIX A: MEMBERSHIP OF KEY COMMITTEES AND REVIEW GROUPS

Names in *italics* indicate those providing direct continuity between the Libraries Review (Follett) and the implementation group (FIGIT)

Joint Funding Council's Libraries Review Group: Main Review Group

Professor Sir Brian Follett, Vice-Chancellor, University of Warwick Chairman

Professor Michael Anderson, Pro-Vice-Chancellor, University of Edinburgh
Mr Bahram Bekhradnia, Director of Policy, HEFCE
Ms Lynne Brindley, Librarian and Director of Information Services, BLPES, LSE
Professor David Dilks, Vice-Chancellor, University of Hull
Professor Tim Drey, Vice-Principal, King Alfred's College, Winchester
Mr Kevin Ellard, Librarian, Staffordshire University
Sir Roger Elliott, Chief Executive, Oxford University Press
Mr Nigel Gardner, Director of Educational Services, University of Ulster
Dr Thomas Graham, Librarian, University of York
Professor Martin Harris, Vice-Chancellor, University of Manchester
Mr Henry Heaney, Librarian, University of Glasgow
Sir Anthony Kenny, President, British Academy
Professor Roger King, Vice-Chancellor, University of Humberside
Mr Derek Law, Librarian, King's College London
Professor John Rear, Pro-Vice-Chancellor, University of Northumbria at Newcastle
Dr Brynley Roberts, Librarian, National Library of Wales
Mr Norman Russell, Librarian, Queen's University, Belfast
Mr David Russon, Director General, British Library Boston Spa Service (BLDSC)

Assessor

Mr Rob Hull, Department for Education

Secretary

Mr Michael Sibly, HEFCE

Joint Funding Council's Libraries Review Group: Information Technology Sub-Group

Membership

Ms Lynne Brindley, Librarian and Director of Information Services, BLPES, LSE

Mr Bahram Bekhradnia, Director of Policy, HEFCE
Mr Michael Breaks, Librarian, Heriot-Watt University
Mr Nich Butler, Director of Computing Service, Oxford Brookes University
Sir Roger Elliott, Chief Executive, Oxford University Press
Professor Sir Brian Follett, Vice-Chancellor, University of Warwick
Mr Nigel Gardner, Director of Educational Services, University of Ulster
Dr Richard Heseltine, Librarian, University of Hull
Mr Derek Law, Librarian, King's College London
Mr Rene Olivieri, Managing Director, Blackwell Publishers
Mr David Russon, Director General, British Library Boston Spa Service
Mr Michael Sibly, HEFCE
Mr Alan Singleton, Editorial Director, Institute of Physics Publishing Ltd.
Mr Ian Winkworth, Librarian, University of Northumbria at Newcastle

Secretariat

Ms Alice Colban, HEFCE

Mr David Cook, HEFCE

FIGIT - Initial membership, 4/94

Ms Lynne Brindley, Librarian and Director of Information Services, BLPES, LSE

Phillipa Dolphin, Librarian, Thames Valley University

Mr Nigel Gardner, Director of Educational Services, University of Ulster

Dr Richard Heseltine, Librarian, University of Hull

Dr Andrew Jordan, Head of Computing Services, Huddersfield University

Mr Derek Law, Librarian, King's College London

Prof Charles Oppenheim, Head of Department of Information Science, University of Strathclyde

Alan Robiette, Director of Information Technology, University of Warwick

Prof Mike Tedd, Department of Computer Science, University of Wales, Aberystwyth

Mr Ian Winkworth, Director of Information Services, University of Northumbria at Newcastle

Secretariat

Mr David Cook (HEFCs/JISC)

Ms Alice Colban (HEFCs/JISC)

Ms Alice Frost (HEFCE/Policy Division)

ISSC - Initial Membership

Mr Derek Law, Librarian, King's College London

APPENDIX B: ORGANISATIONS INVOLVED IN ELIB

Organisation	Lead Roles	Partnerships
Aberdeen University		DigiMap
Aberdeen University		SCOPE
Abertay, Dundee	Ariadne	
Abertay, Dundee		EduLib
Abertay, Dundee		SCOPE
Aberystwyth University		NewsAgent
Academic Press		InfoBike
Academic Press		Open Journal Framework
Academic Press		SuperJournal
ALPSP		eJ and Learned Societies
Anglia University		eOn
Aston University		ERIMS
Aston University		TAPin
Australian VCs Committee		JEDDS
Bath (UKOLN)	MODELS	
Bath (UKOLN)		Ariadne
Bath (UKOLN)		NewsAgent
Bath (UKOLN)		ROADS
Bath University	InfoBike	
Bath University		ROADS
BIDS		EDDIS
BIDS		InfoBike
Bielefeld		EDDIS
Biochemical Society		eSPeRe
Birkbeck College		ADAM
Birmingham University		Internet Library of Early Journals
Birmingham University		SuperJournal
Birmingham University		TAPin
Bishop Grosseteste College, Lincoln		Eurotext
Blackwell Publishers Ltd		ERIMS
Blackwell Publishers Ltd		ODP - Humanities
Blackwell Publishers Ltd		SuperJournal
Blackwell Scientific		InfoBike
Blackwell Scientific		SuperJournal
BLDSC		EDDIS
BMA		OMNI
BMJ Publishing Group		eSPeRe
Bradford University		SuperJournal
Bretton Hall (Leeds)		DIAD
Bristol (ILRT)	BizEd	
Bristol (ILRT)	ROADS	
Bristol (ILRT)	SOSIG	
Bristol (ILRT)		MIDRIB
British Academy		Internet Archaeology
British Computer Society		Open Journal Framework
British Educational Research Association		EducationOn-line
British Institute of Radiology		eSPeRe
British Society for Immunology		eSPeRe
British Sociological Society		Sociological Research On-line

Organisation	Lead Roles	Partnerships
Butterworth-Heinemann		ERIMS
CAB International		eSPeRe
CAB International		SuperJournal
CALIM		InfoBike
Cambridge University		CLIC
Cambridge University		EEVL
Cambridge University		OMNI
Cambridge University		SuperJournal
Cambridge University Press		EDDIS
Cambridge University Press		SuperJournal
Cardiff University		FORMATIONS
Carfax Ltd		SuperJournal
Central England University	TAPin	
CERLIM		NewsAgent
Chapman & Hall Ltd		SuperJournal
Churchill Livingstone Ltd		SuperJournal
Cimtech Ltd		
Company of Biologists Publishers		Open Journal Framework
Council for British Archaeology		Internet Archaeology
Coventry University		ADAM
Coventry University		TAPin
DeMontfort University	ERCOMS	
DeMontfort University	HELIX	
DeMontfort University		Phoenix
DeMontfort University		SuperJournal
Durham University		Internet Archaeology
Durham University		SuperJournal
East Anglia University	EDDIS	
East London University	eOn	
Edinburgh University	DigiMap	
Edinburgh University		EEVL
Edinburgh University		SCOPE
Electronic Press		Open Journal Framework
Elsevier Science Ltd		SuperJournal
EPRG		Open Journal Framework
ESRC Data Archive		ResIDe
Falmouth College of Arts		DIAD
Fretwell Downing		MODELS
Fretwell Downing		NewsAgent
Glasgow Caledonian University		SCOPE
Glasgow School of Art		ADAM
Glasgow University		Internet Archaeology
Griffith University, Brisbane	JEDDS	
Guildhall, London	DeLibarations on TLHE	
Heriot Watt University	EEVL	
Heriot Watt University		SCOPE
Hertfordshire University	HEDC	
Hertfordshire University	RUDI	
Huddersfield University		Phoenix
Hull University	EduLib	
Hull University	Eurotext	
Humberside University		Eurotext

Organisation	Lead Roles	Partnerships
Hutton Getty Picture Collection		HELIX
ICBL		EEVL
ICL		InfoBike
Imperial College, London	CLIC	
Imperial College, London	eStacks	
Imperial College, London		EEVL
Institute of British Geographers		Parallel Publishing for Transactions
Institute of Electrical Engineers		EEVL
Institute of Electrical Engineers		SuperJournal
Institute of Historical Research, London	Electronic Seminars in History	
Institute of Historical Research, London	ER in History	
Institute of Historical Research, London	IHR-Info	
Institute of Housing		ResIDe
Institute of Physics Publishing Ltd		SuperJournal
International Imaging Ltd		
ISI		Open Journal Framework
JISC (EDDIS)		JEDDS
John Moores, Liverpool	QUIPS	
John Rylands University, Manchester		LAMDA
John Wiley and Sons Ltd		Open Journal Framework
John Wiley and Sons Ltd		SuperJournal
Keele University		InfoBike
Kent University		InfoBike
King Edward's Hospital Fund		OMNI
King's College, London	CINE	
King's College, London		LAMDA
Kingston University		DeLibarations on TLHE
Lancaster University		EDDIS
Leeds University	EducationOn-line	
Leeds University	Internet Library of Early Journals	
Leeds University		CLIC
Leeds University		LAMDA
Leeds University		SuperJournal
Leicester University		ACORN
Leicester University		FIDDO
Linen Hall Library		CAIN
Liverpool Hope University		QUIPS
Liverpool Institute of Higher Education		ODP - Humanities
Liverpool University		QUIPS
Liverpool, John Moores University	ODP - Humanities	
London Institute (College of Printing)	DIAD	
London School of Economics (BLPES)		LAMDA
London School of Economics (BLPES)		SuperJournal
Loughborough University	ACORN	
Loughborough University	FIDDO	
Loughborough University		ROADS
Loughborough University (HUSAT)		SuperJournal
Macmillan	SuperJournal	
Manchester Business School		LAMDA
Manchester Metropolitan University	LAMDA	
Manchester University		eStacks
Manchester University		Internet Library of Early Journals

Organisation	Lead Roles	Partnerships
Manchester University		SuperJournal
Manchester University (Computing)		WoPEc
MCB University Press		Open Journal Framework
Middlesex University		ADAM
Multimedia Research Group		Open Journal Framework
Museum of London		ResIDe
Napier University		CATRIONA II
Napier University		SCOPE
National Art Library		ADAM
National Institute for Medical Research	OMNI	
National Institute for Medical Research		SuperJournal
National Libraries of Australia and NZ		JEDDS
NE Wales Institute of HE		SEREN
Newcastle University	NetSkills	
Newcastle University		DigiMap
Northumbria University	IMPEL2	
Northumbria University		ADAM
Northumbria University		eOn
Nottingham Trent University		EEVL
Nottingham Trent University		FIDDO
Nottingham University		FIDDO
Nottingham University		OMNI
Nottingham University		Open Journal Framework
Nottingham University		Parallel Publishing for Transactions
OLF		eOn
Open University	EDBANK	
Open University		ERCOMS
Open University		Phoenix
Oxford Brookes University		RUDI
Oxford University	Internet Library of Early Journals	
Oxford University		DigiMap
Oxford University		Internet Archaeology
Oxford University		SuperJournal
Oxford University Press		ERIMS
Oxford University Press		Open Journal Framework
Oxford University Press		SuperJournal
Oxford, Templeton College	ERIMS	
Paisley University		SCOPE
Pitman		ERIMS
Plymouth University	Skills for New Info Professionals	
Queen Margaret College		SCOPE
Queen Mary and Westfield, London	Parallel Publishing for Transactions	
Queen's University, Belfast	eJ and Learned Societies	
Queen's University, Belfast		CAIN
Rapid Science Ltd		SuperJournal
Reading University		DigiMap
Robert Gordon College		SCOPE
Routledge		EDBANK
Routledge		ERIMS
Routledge		ODP - Humanities
Routledge		SuperJournal

Organisation	Lead Roles	Partnerships
Royal Free School of Medicine		OMNI
Royal Society		eSPeRe
Royal Society of Chemistry		CLIC
Royal Society of Chemistry		SuperJournal
Sage Publishing		Sociological Research On-line
Sage Publishing		SuperJournal
Salford University		LAMDA
SALSER		EDDIS
Scandinavian University Press		ERIMS
SEDA		EduLib
Sheffield University	NetLinks	
Sheffield University		ERIMS
Society for Endocrinology		eSPeRe
Society for Endocrinology		SuperJournal
Society for General Microbiology		eSPeRe
South Bank University	Phoenix	
South Bank University (LITC)	NewsAgent	
Southampton University	CogPrints	
Southampton University	Open Journal Framework	
Southampton University		Internet Archaeology
Southampton University (Geodata Institute)		ERCOMS
St Andrews University		HELIX
St Andrews University		SCOPE
St Georges Hospital Medical School	MIDRIB	
Staffordshire University		InfoBike
Stevan Harnard		Open Journal Framework
Stirling University	SCOPE	
Stirling University		EDDIS
Stirling University		FORMATIONS
Stirling University		Sociological Research On-line
Strathclyde University	CATRIONA II	
Strathclyde University		e Journal environment for Law
Strathclyde University		SCOPE
Surrey Institute of Art and Design	ADAM	
Surrey University	PATRON	
Surrey University	Sociological Research On-line	
Surrey University	WoPEc	
Sussex University		SuperJournal
SWETS		ACORN
Taylor and Francis		SuperJournal
The Tate Gallery		ADAM
Ulster University	CAIN	
Ulster University	eSPeRe	
Ulster University	FORMATIONS	
Ulster University		Eurotext
Ulster University		SuperJournal
UMIST		LAMDA
University College, London	LAMDA	
University College, London		SuperJournal
University of Wales, Bangor	SEREN	
University of Wales, Cardiff		SEREN
Warwick University	e Journal environment for Law	

Organisation	Lead Roles	Partnerships
Warwick University		SuperJournal
Warwick University		TAPin
Wellcome Centre for Medical Science		OMNI
Wellcome Trust		MIDRIB
West of England University	ResIDe	
West of England University		ADAM
Westminster University		LAMDA
Winchester School of Art		ADAM
Wolverhampton University		TAPin
Xerox		Phoenix
York University	Internet Archaeology	
York University		FORMATIONS

APPENDIX C: CASE STUDIES

C.1 Introduction

The purpose of the case studies is to examine the different aspects of eLib within the context of specific projects. This complements the main evaluation which is based on the different aspects of the Programme. Four major projects have been selected in key areas of the Programme. These are as follows:

- LAMDA - Electronic Document Delivery Project linking libraries (initially) in London and Manchester areas
- SuperJournal - Publisher led major project in the Electronic Journals area which involved 20 publishers. This project was taken over by eLib having been started under British Library funding
- SCOPE - Project dealing with copyright and logistics issues in the important on-demand publishing area
- EEVL - Subject gateway project handled as part of Access to Network Resources area

C.2 LAMDA

C.2.1 Background

LAMDA developed an electronic document delivery service to supply journal articles to HEI libraries in London and Manchester. Initially it supplied twenty one HEFCE funded libraries in the London area and the five CALIM libraries in Manchester. The numbers of supplying libraries and particularly the number of customer libraries have both increased considerably.

The main aims of LAMDA were to improve the speed and reduce the cost of service for Inter Library Loans (ILLs). The British Library, through its Document Supply Centre at Boston Spa, was thought to provide a valuable service, but one which had rising costs, relatively long delivery times and limited pressure to change. Strategically, the British Library service was not seen to be moving towards electronic document delivery.

HE libraries in London and Manchester have major periodical collections - there was considerable journal investment and the libraries were not sharing resources. Users were seeing a greater range of material in electronic catalogues which was leading to a much higher ILL take up and therefore greater costs.

Collaboration between libraries sounds logical but it has been notoriously difficult to achieve and has rarely been successful at a large scale. All libraries have to cover their core subjects and main research areas. It is not realistic to rely on others to provide certain journals because they themselves cannot commit to retain these in the event of funding cuts. On the whole, the effort to do this costs more than the savings achieved.

The aims of LAMDA were therefore as follows:

- to optimise the use of existing staff and resources
- to galvanise the British Library into developing its electronic delivery mechanisms

C.2.2 Operation and management

Process

Originally the proposal was assembled by the London group (UCL, LSE, KCL, IC) to which Westminster was added (as a new University, it helped to provide a different perspective). The potential for the bid was thought to be high. UCL had initiated the process and there was a strong link to FIGIT through Lynne Brindley (then at LSE (BLPES) who was also chair of FIGIT). The project went through the proposal evaluation process with FIGIT which led to the following changes:

- the addition of the link to Manchester and the CALIM group (Manchester, John Rylands, Manchester Business School, Manchester Metropolitan, Salford and UMIST) which already had good co-operation
- the original proposal to develop software specifically within the project was dropped
- initially a free service was provided - charges were imposed after about 6 months. FIGIT were originally keen to see charging from the start of the project to get more realistic demand estimates
- a more detailed approach to the handling and monitoring of copyright issues was developed

Project management was split between the actual project manager and the LAMDA board which represented the contributing institutions. The Board met four times a year and is now meeting six times per year. There are various sub-committees including a finance group.

eLib role in LAMDA

The role of eLib in support of LAMDA was characterised as follows:

- very helpful in the process

- the exclusion of software development from the project turned out to be a major advantage
- the eLib JEDDS project distributes the ARIAL software used in LAMDA and some personnel were linked to LAMDA. The software is distributed free in an HE environment, although if LAMDA were to expand to a commercial environment, this would have to be charged for
- transition to a service requires time and support, an intermediate buffer zone would help
- eLib allowed LAMDA to build up a 'warchest' of revenue to support the transition phase to a full service - this was linked to the money from the third year underspend

C.2.3 Outcomes and achievements

Outcomes

The following outcomes were achieved:

- after 3 years of eLib funding, the project went through a transition to become a service. This required some support from eLib
- LAMDA became fully independent in August 1998, and the name was changed from LAMDA (the acronym) to LAMDA (no longer an acronym, reflecting the much wider range of organisations involved. In particular, Leeds was added to the supply consortium, thereby ensuring a much better supply of medical material (John Ryland in Manchester was overburdened in requests for such material)
- LAMDA has proved that library co-operation can work - there have been many discussions and debates but the outcomes have been positive. eLib has proved that co-operation can be effective, but that is not cost free
- LAMDA have always managed to undercut the British Library on both cost and speed. The British Library is still not electronic in its approach
- time costs are a major issue - if staff were costed at full rate, the project would probably not be viable

Issues

Copyright was a complex issue for the project. This was solved by providing electronic delivery from the host library. To satisfy a request, material has to be taken from the shelf, scanned and transmitted to the user library using the ARIAL software. In doing things this way, LAMDA is vulnerable to the normal problems of an operational library (ie books / journals can be out on loan, vandalised or otherwise unavailable).

After transmission, copies of the material were destroyed. This has not been a problem because requests for the same article were uncommon. In a survey of 1800 requests for journal articles, only 15 to 16 were repeat orders.

There have been on-going discussions with the British Library and options for co-operation have been explored, but these have not resulted in any specific developments.

C.2.4 Users and impacts

Statistics

The results of a LAMDA market survey on user satisfaction show the following:

- 40% of user satisfied
- 35% of users mostly satisfied
- 25% of users not satisfied (mainly due to failures to meet the 48 hour delivery time)

Subject areas of users:

- science / engineering: 43%
- medical: 29%
- social science: 12%
- others: 16%

Delivery statistics:

- by end of year 1: 26,000 requests had been handled by all LAMDA libraries. (BLDSC provided 912,000 requests in 1995/96)
- the current figure for LAMDA is about 50,000 to 60,000 requests per year
- the current cost is £3.85 per article compared to £4.60 for BLDSC
- there is an 80% satisfaction rate (ie LAMDA can supply what is requested), and 70% can be supplied within the target 48 hours.

Current status and ways forward

There are 65 customer libraries now, but the overall market share is still very small compared to the BLDSC. LAMDA needs to improve its service to users to ensure that it continues to survive. There are considered to be two ways forward:

- a) try to operate as a clearing house (ie make the interface much simpler for the users by avoiding the need for them to trace availability through the various catalogues of the supplying libraries)
- b) provide delivery direct to end users (ie instead of supplying to a librarian as the end user, have an accredited list of end users to whom material can be supplied directly - the main problems with this now are ensuring that the copyright rules are applied). - There is a pilot for this being run at the LSE and the Manchester Business School

In addition to the above, the following developments are also important:

- developing links to FE college libraries
- exploring the possibilities with commercial suppliers
- the development of the DNER

C.3 SuperJournal

C.3.1 Background

The aim of SuperJournal was to develop and test the infrastructure and tools needed for refereed electronic publishing. SuperJournal was a 'major collaboration between publishers, universities and libraries to develop multimedia electronic journals and answer key questions about successful electronic publishing.' It evolved in eLib form from projects such as SPIRS, the SuperJanet Project on Information Resources which involved 9 publishers.

Questions to be addressed by the project included:

- what do users want from electronic journals ?
- what do authors want from electronic journals ?
- what factors are involved in scaling production up from single journals to large volumes ?
- how can libraries make electronic journals available to their readers cost effectively ?

It is important to note that SuperJournal was always designed as an evaluative project. Its main output therefore was intended to be the knowledge gained from the project operations rather than the provision of a service outcome.

The SuperJournal project consisted of:

- The SuperJournal consortium - 20 learned society, university press and commercial publishers who formed a pre-competitive collaboration to plan strategic aspects of the project, to contribute their journals and to plan multimedia features
- University of Manchester - a production facility to assemble the journals and develop the host environment to make them available
- HUSAT Research Institute, Loughborough together with the Loughborough University Library and Dept Information Science to perform evaluation studies, concentrating on factors which affect usage and the strategies users employ when interacting with electronic journals
- Partner user communities and university test sites

C.3.2 Operation and management

The characteristics of the project related to operations and management were as follows:

- large consortium with many different stakeholders
- much of the work on the publisher side was done on a voluntary basis, which required considerable management time to chase progress
- teamwork, as opposed to parallel activities at the three main sites needed encouragement

The following information on user studies, promotion and support, technical design and data and trust and co-operation was presented at the SuperJournal Conference²⁵ by the SuperJournal project manager. This provides useful insights into the lessons learned from the management and operation of the project itself.

User Studies

- importance of defining at the start what you want to know. It is essential to clearly state the questions you want to answer
- data should be gathered over a sufficient period of time. It takes time for users to discover a new service, to learn to use it, and for usage patterns to emerge

²⁵ Christine Baldwin, Project Manager, SuperJournal, SuperJournal Conference, Birkbeck College, London, 21 April 1999

- Important to leave sufficient time to analyse and understand the data collected
- use complementary techniques to build a picture of user behaviour. Usage statistics can tell you what users did, but questionnaires, focus groups, and personal interviews each have an individual role in explaining why they did so

Promotion and Support

- Important to "know the product" - what it is and how it works in order to "sell" it to others
- importance of knowing the audience and their needs. You have to know what they want, and match the benefits of a product or service to the ones they are looking for. Correct positioning is essential
- importance of having a person responsible for user support. If you offer phone/email support or have a user feedback feature, there has to be a person at the other end to answer the questions
- from the user's point of view, there should be one contact, though that person may route the questions to others to get the right answers.
- "everywhere is different". - every university is unique and will have a different IT infrastructure and standards, but also its own library system, departments, and users. Local factors are important in planning promotion and support

Technical Design and Data

- importance of developing systems that are scalable yet changeable. SuperJournal was a research project, and needed flexibility, and found there were tradeoffs in terms of scalability
- metadata will be increasingly important for discovery. Publishers should give some thought to the metadata associated with journal articles to enable users to find them and assess their relevance
- article metadata should be sufficiently granular to support the functionality envisaged in electronic journals and services, e.g. to identify individual authors
- publishers should ensure quality control of their data, and not merely rely on their typesetters
- files with errors have to be corrected later, involving time, effort, and cost

Trust and Co-operation

- At the start of the project, considerable time was spent on licensing and legal issues. A range of legal agreements were needed to license the publishers' journals to the project, to protect their intellectual property, and to establish the roles and responsibilities of the project partners with respect to it. In the end the trust and co-operation that went into these agreements was more important than the legal documents themselves
- A particular success was the licensing agreement with the libraries. This was a simple three-page agreement in English, not a complicated document. Only one case of "abuse" was found, and this was dealt with a "word in the ear" rather than legal remedies
- Sharing statistics on journal usage was also a difficult issue. The libraries wanted to know the names of the journals that corresponded to the codes appearing in the usage statistics. The publishers were reluctant, as usage data is commercially sensitive. After some debate, the publishers agreed to release the names corresponding to the codes to the librarians (but not to each other)
- In the project overall, it was found that knowledge and experience builds trust. Electronic journal systems of the future will be built on knowledge and experience, and will operate in the spirit of co-operation and trust to deliver to users what they want

C.3.3 Outcomes and achievements

Difficulties and unanticipated outcomes

Research is difficult to plan and implement in the area of authors and multimedia. In particular:

- non intrusive research is difficult here and asking for retrospective multimedia entries introduces a difference between the paper and electronic versions which many users do not want
- authors cannot see the benefit for themselves in providing the multimedia content

Planning the author research was difficult. There are many layers of stakeholders in the project (eg publisher, journal editor, author) and gaining the multiple permissions needed can be very cumbersome. Following from this, publishers must check the final versions before release, which with multiple publishers involved can be very time consuming.

Technical problems encountered included bugs in the retrieval software to give full search capability for PDF files and incompatibilities between Acrobat versions 2 and 3.

C.3.4 Users and impacts

Initially, there was a slow uptake at user sites which was worrying in terms of the impacts on the statistical validity of the results. For example, 5 months after launch in May 1997 there was only 1 registered user (excluding librarians and technical staff) at one of the Communication and Cultural Studies (CCS) sites. Factors behind this may include:

- the librarians being on a learning curve in positioning and promoting SuperJournal
- the timing of the release (December 1996) was not ideal as autumn term is the busiest
- in the CCS area, the mapping of journal titles to research interests is critical for success

Later in the project, the level of usage picked up very rapidly. This is illustrated in the user profiles for August 1997 and May 1998 which are given in the tables C.3.1 and C.3.2. The growth in the number of participating HEIs is evident from a comparison of the tables.

Site	Total users	Academic staff	Research staff	PG students	UG students	Library	Others
Birmingham	15	7	0	1	0	6	1
Cambridge	141	25	43	30	1	36	6
DeMonfort	30	15	3	4	0	7	1
LSE	18	5	2	8	0	2	1
Oxford	92	17	30	24	2	14	5
UCL	91	28	28	10	8	10	7
Ulster	37	17	1	5	2	11	1
Warwick	66	15	4	23	3	16	5
Total	490	129	111	105	16	102	27

Table C.3.1: SuperJournal user profile for August 1997 (full breakdown)

Site	Total users	Academic staff	Research staff	PG students	UG students	Library	Others
Birmingham	32						
Bradford	71						
Cambridge	349						
DeMonfort	81						
Durham	32						
Leeds	154						
LSE	92						
NIMR	41						
Oxford	304						
Sussex	100						
UCL	132						
Ulster	90						
Warwick	155						
Total	1633	287	311	504	254	213	64

Table C.3.2: SuperJournal user profile for May 1998 (totals only)

One of the difficulties associated with the slow pick up within the project timescale was that it made the analysis of the results more difficult because significant usage information was only available for a relatively short run.

User findings

SuperJournal has produced a wealth of information on user behaviour and requirements which contacts with publishers not directly involved in SuperJournal have confirmed as being of great value. Examples of this information are given in Table C.3.3. This information, though essentially pre-competitive, is of considerable marketing value to publishers.

Electronic journal aspect		Examples of findings
Core user requirements		Most important requirements are critical mass of journals, access and timeliness. Next come browse, search and print. A backfile of 5 to 10 years is also important. A unified gateway for resource discovery is also valued.
Users and behaviour	Printed journals	Key differences between scientists and social scientists
	Users of SuperJournal	Postgraduates most numerous (36%). Academics (18%), Research staff (22%) and undergraduates (20%). Undergraduate use grew rapidly late in project
	Patterns of use	Reasons for use varied significantly by discipline
	Types of repeat users	5 user clusters identified, based on frequency, breadth and depth of use.
	Types of non users	Reasons for non use, one off use and occasional use patterns
	Changes in work practice	Reducing numbers of library visits, not seen as a replacement for the library, extending the range of accessible information, easier to remain up to date, higher authentication expectations (should be less troublesome), concern over quality and review process persists
Use of content	Cluster concept	concept liked by users, required clustering varied, typically 5 to 10 journals
	Backfile	7 year average requirement for science, 11 years for social science Affects pattern of use more than use / non use
	Use of the Journals	Wider use in social sciences (1 to 6 journals) than science (1 to 3 journals) Many used to find new, otherwise unavailable journals
	Use of articles	Proportion of articles used higher in social sciences Little evidence of very popular articles being viewed by many users
	Use of abstracts	Valued by users, though user less by science than social science users
	Multimedia content	Moderate initial interest - variety of possible uses
The Service	Patterns of uptake	2867 registered users at 13 tests sites by project end Took between 5 and 12 months to get stable repeat user populations Academics the early adopters with undergraduates slowest
	Awareness and promotion	Mostly found through the library. Library web sites useful and targeted promotion also effective. Demonstrations helpful.
	Barriers to use	1) Lack of relevant journals, 2) access problems
	Time of use	Out of hours useful, but mainly used during working hours. Greatest use 2-5pm with peak at 2-3pm. Least use 9-10am. Wednesday most use, Friday least, but generally evenly distributed. 21% out of hours use. Average use time about 11 minutes - fairly constant.
	Location of use	Desktop use valued. Most use (90%) on-campus, mainly from departments, then from cached areas / libraries
	Seasonal use	Followed pattern of university life. Much lower use in vacations due to fall off in undergraduate and (to some extent) postgraduate use.
	User support	90% prefer support by email, with response within 24 hours in working hours acceptable. 90% of requests were for personal ID login information.
	User authentication	Important issue, users prefer system to recognise them rather than have to go through active input of personal ID
Features	Core vs nice to have	Core = browse / search / print Nice = customisation, links from bibliographic references
	Browsing	Most common method of use
	Searching	Actual use of search engines low and searches tended to be simple
	Other special features	Little interest in discussion forums and links to other users
Timing	Timeliness and	Important for all, but especially in sciences

Electronic journal aspect		Examples of findings
	immediacy	
Timing (cont.)	Timing of electronic publication	Prefer to co-incide with print, or continuous e-publication with print follow up. Signposting represented by journal issue date is valued
Presentation	Viewing onscreen	Not generally liked- most users print. PDF preferred for this and most commonly viewed, despite stated preference for HTML
	Printing	Most users print as want own copy to keep / annotate. PDF better here. High quality graphic needed in some cases (eg life sciences)

Table C.3.3: Examples of SuperJournal findings

Exit strategies

The aims of the exit strategy for SuperJournal were as follows:

- to ensure that there are options for making journals included in the project available to libraries after the project finishes
- to achieve a smooth transition to any new service which may arise
- to ensure that the project knowledge is widely disseminated
- to ensure that tangibles from the project are reused for the benefit of HEIs

In terms of the different parties involved in the SuperJournal consortium the options were as follows:

- publishers use what they have learned, but have no further contact with the project HEIs, ie the default situation
- publishers put into practice their learning and use either the University of Manchester or other HEI services to provide content to HEIs
- a more formal group of publishers decide to supply a cluster of content using University of Manchester or other services
- Manchester: seek to develop a service to store and make electronic versions of journals and electronic only content available to HEIs. Planned to start this 9/98 with the intention to use journal content from future CEI projects
- Loughborough - have gained expertise and experience in method design and implementation of evaluating research projects
- Publishers (either alone or in a consortium) may seek further funding for research and seek a test bed facility such as the University of Manchester developed for SuperJournal

The University of Manchester was a key new element in the project. They have taken the expertise and developments conducted for SuperJournal and used this to make a successful proposal to the NESLI project. Here they have teamed with Swets and Zeitlinger.

C.4 SCOPE

C.4.1 Background

Discussions on the SCOPE project began in August 1994 and a proposal was submitted in 1995. The project was accepted and it started in mid 1995. The aim of the work was to develop a new type of publishing service which would be of benefit to undergraduates in Scottish Higher Education.

C.4.2 Operation and management

Programme direction

There was some outside criticism of the Programme design “let a hundred flowers bloom” – some thought that the projects were duplicating effort with similar outcomes. The SCOPE team felt this was not the case, at least in the area of on-demand publishing because all the projects had very different objectives. This approach allowed a whole new “breed” of people to participate in development projects – practitioners rather than purely researchers.

The grouping of projects into areas offered the potential for collaboration, although in practice SCOPE did not have a great deal of contact with other ODP projects. Links were closer with the Electronic Short Loan (Phase 2) projects as SCOPE was also offering a facility for electronic reserve materials.

The 3 year timescale for eLib was not enough – the first year was spent researching various issues central to SCOPE (while other projects did the same thing for similar topics); the second year focused on identifying problems and setting up the service infrastructure. Only in the third year did the project / service start properly. There was insufficient time during the one 1 year of operations to build up evidence of demand for a sustainable service. The aim of eLib to build sustainable services was therefore unrealistic. Plans for follow-on funding were not made clear early enough and this affected discussions with key project stakeholders.

The lack of initial research for all eLib activities could have been addressed at an earlier stage, possibly as a “pre-eLib” programme of supporting studies. The results of studies actually conducted were very useful, but they came too late to be of value for Phase 1 and 2. The buying patterns research undertaken for SCOPE could usefully have been done at an earlier stage, such data were not available via commercial market research companies.

Other views included the following:

- JISC/PA Working Parties were very useful in order to get movement on key issues
- there was good communication between all projects if not necessarily direct collaboration
- the emphasis of the Programme was on research and development (research in order to deliver improvements to service, not basic research) rather than teaching and learning
- archiving issues were not addressed in time and these are still an ongoing concern.
- insufficient funds were provided for the transition period between SCOPE and HERON

Programme steering

The Programme Director was described as “brilliant” as were the others in Programme Office. They acted as a focal point, providing valuable input on other activities across the Programme. They always had a good handle on the overall Programme, kept up to date with the detail of SCOPE, understood what SCOPE were trying to achieve and offered good advice. Concertation days were very useful as a means to contact others and exchange information.

Project management training was OK as an “ideal” to aim for, but it came too late for the SCOPE team who had already started the project (SCOPE was one of the first to start), established systems and “plunged in at the deep end” without the benefit of guidelines.

Evaluation was not included as a requirement in the call for proposals although the SCOPE team always planned to undertake some evaluation activities. The proposed framework was cumbersome and diverted effort from service provision. The team could have approached this better if the requirements had been known at the start. Guidelines and explanations about evaluation were very useful in clarifying what should be done although more information on how to go about it would have been useful. It was noted that other projects were able to get additional funding for evaluation while SCOPE accommodated the costs within the existing budget. The resulting work by the Tavistock was found to be useful.

There was a perceived lack of interaction between the eLib Programme Office and other non eLib programmes like JTAP. eLib turned out to be much larger than anyone expected. Naiveté was widespread at the outset in terms of what could be achieved within the timescale. There were difficulties dealing with rightsholders and publishers which were not really anticipated at the start (by SCOPE or by other eLib projects). JISC tended to avoid dealing with key issues like VAT, legal and insurance problems which were central to the financial and legal administration of projects, especially for payments across consortia. Legal issues for HERON are considerable – even within institution it became difficult to get legal support, except at a cost

The project reporting requirements were not too burdensome. These were delegated to Library Representatives and the reports were collated centrally to ensure consistency.

Project selection and management

The selection process went quite smoothly for SCOPE. There were some negotiations with Programme Office before the final agreement to go ahead was given.

The division of funding across eLib as a whole was seen to be fair at the time although in retrospect some of the areas could have been combined (for example Electronic Short Loans and On-demand Publishing).

SCOPE is largest project in the ODP area. Although it can always be said that more money would be valuable, in practice SCOPE had no budget over-runs and was able to achieve its objectives within the funding allocated. More might have been achieved with additional funds to cover staff and legal advice costs. Promotion could also have been developed further. SCOPE relied to a large degree on the library representatives to promote it within their institutions.

There was no project manager in the original proposal – only a few days for the Project Director. In reality the project manager role was considerable and was taken on by Leah Halliday in addition to role of Copyright Officer. As with all eLib projects, SCOPE had difficulties with staff retention due to short term contracts. Stirling University has not been willing to extend contracts so good staff have been lost to the project. The project had to change the original staffing plans as it developed. For example, the Liaison Officer role lasted much longer than originally anticipated. It would have been helpful to have had more time to reconcile staff recruitment, staff training and evaluation activities. Seconded staff found it difficult to free up time from their main role to handle eLib operations (a problem common to all programmes). In particular, liaison activities with library representatives were more time consuming than anticipated.

Project support

- Dependencies - delays in getting agreements from publishers posed significant project management challenges – project timescales had to be revised. This meant late delivery of materials for some courses
- Dependencies on academic staff (to produce reading lists on time and with affordable sources) and on publishers (to provide clearance on time and on appropriate terms) were time consuming to manage for all project staff

- Project success was heavily dependent on “external” players outside main project team (as in any similar commercial venture) – academic staff responsible for delivering reading lists, promoting course packs and conducting evaluations; library reps responsible for selecting courses and motivating academic staff, promoting evaluation, etc. Project management were able to manage these external dependencies within context of limited SCOPE operations but would not have been able to scale up this model. The HERON project has therefore taken a different approach as a result of lessons learned on SCOPE

C.4.3 Outcomes and achievements

Outputs and achievements from SCOPE and comments on aspects of the project are given in Table C.4.1

Aspect	Achievements / comments
Model agreements	<ul style="list-style-type: none"> • Nearly 100 rightsholders participated in SCOPE • By end of project nearly 60% of a reading list could be cleared within 8 weeks • “Real-world” approach to negotiating terms with rightsholders • Good dialogue with CLA and involvement in negotiating new digitisation agreement • SCOPE’s model agreement was used by others in eLib
Direct supply of electronic texts	<ul style="list-style-type: none"> • These were not generally available from publishers • 5 MBA text books were added to SCOPE • some success in publishing electronic materials produced by institutions
Networked resource bank	<ul style="list-style-type: none"> • Demonstrated demand across 2 of 3 areas selected for SCOPE as well as wider demand across other areas
Digitisation	<ul style="list-style-type: none"> • Procedures developed and implemented in real-life situation
Document delivery system	<ul style="list-style-type: none"> • CACTUS system developed incorporating 5 levels of security and implemented in consortium institutions (despite views in wider community that such a system could not be developed within given budget !) • System well received by publishers – helped to overcome resistance regarding security issues and facilitated development of future model agreements for copyright clearance
User reaction	<ul style="list-style-type: none"> • Some success in gathering user feedback – limited by dependency on lecturers • Feedback was used to improve the SCOPE service – better presentation of course packs, better understanding of price sensitivity, input to debate on IT infrastructures required to support HEIs, understanding of how students use coursepacks / resource bank, appreciation of input/investment required from academic staff • Feedback and lessons learned informed proposal for HERON • Identified key institutional issues where further policy is required (student charging, institutional copyright ownership)
Development of commercial model	<ul style="list-style-type: none"> • Successful bid for extension funding to develop a national on-demand service (HERON) involving Stirling, Napier and South Bank Universities; Blackwell’s Bookshops and Blackwell’s Information Services
Booksellers	<ul style="list-style-type: none"> • Demonstrated that SCOPE did not generally have adverse effect on book sales • Engaged booksellers in new process of ODP
Library & information services	<ul style="list-style-type: none"> • Increased access to materials (available 24 hrs, no queuing for key texts, avoid vandalism of key text books) • Impact study demonstrated potential for savings for libraries if SCOPE operating on larger scale (Impact of On-demand publishing and Electronic Reserve on students, teaching and libraries in HE in the UK – Leah Halliday et al)
Student training	<ul style="list-style-type: none"> • Hands-on tutorials on SCOPE resulted in high use of the service
Wider access	<ul style="list-style-type: none"> • Did not succeed in delivering for distance learners or off-campus users due to security concerns (subsequently overcome for HERON)
Rightsholders	<ul style="list-style-type: none"> • Additional revenue streams for coursepacks and online delivery • Potential to increase book sales by students drawn to bookshop for coursepacks • CACTUS system met concerns re security of copyright material during online delivery

Table C.4.1: SCOPE achievements and findings

SCOPE worked as a service in a “real world” environment, working to actual academic timetables and deadlines and charging for the coursepacks produced. In this respect it was able to do more than just an R&D project.

The team learned “a huge amount” from participation in the SCOPE project. The findings were well documented in a Project Annual Report but it is not known to what extent the questions raised through reporting were followed through from the Programme Office to JISC / CEI and to higher level decision makers.

SCOPE was only able to gain the confidence and support of publishers through its commitment to continuity for the 3 year period of eLib. Not knowing about the availability of funding beyond the 3 year period was a significant obstacle to overcome with publishers/academics. The fact that funding for HERON was available was only made clear at a late stage of SCOPE. Knowing this earlier would have been helpful.

Project adopted a “low key approach” in order to keep demand at a level they could manage – outputs and achievements should be evaluated with this in mind. This is a further example of how the project kept within budget by limiting what was done.

The CACTUS system was a major achievement and did more than expected. Deployment of CACTUS was hampered somewhat by lack of knowledge of setting up Web browsers in HEIs as well as compatibility problems with plug-ins. The success of the electronic resource bank was heavily dependent on how CACTUS was set up on IT networks and whether an appropriate print server was used. CACTUS is dormant currently but may be transferred and amended for use in HERON for approvals service.

SCOPE personnel were invited to contribute to development of the CLA’s new digitisation licence although ironically the resources collected for SCOPE cannot be used in HERON due to the licence agreed.

The project never gained critical mass and was unlikely to have been scaled up. It was limited by time and the resources needed for clearance. A new model was agreed for HERON where delivery was to institutions rather than direct to students. The lessons learned from SCOPE informed this decision.

The SCOPE project never got a chance to deal with the overlap between academic courses in different institutions.

Starting electronic reserve sooner would have been valuable, but SCOPE could not secure permission from publishers in time to do it sooner. When first approached in 1995, most publishers had never received a request to use their copyright material for electronic delivery. They had to go through policy development before they would respond to requests. As a result, a year had passed before there was real progress on this front. Publishers eventually addressed the issue because they were receiving so many similar requests (many of which were from eLib projects).

There were contacts with the international community. These included a Swedish publishing company, contacts in Australia, a visitor from South Africa, publishers in Greece, Japan and USA, and presentations at EU meetings and the European Publishers Association.

C.4.4 Users and impacts

Value for money

Access to learning materials has been improved for those who bought the coursepacks.

SCOPE did offer savings but only if the copyright fees are not accounted for in the calculations, the work would not have been commercially viable if the full fees had been included in the price.

The HERON model will also produce savings, but only if it is adopted institution-wide and not just for several individual courses.

The commercial success of coursepacks is highly dependent on good estimates of demand. The demand is often overestimated in practice, which in the case of SCOPE led to losses on some print runs. Print on-demand may be more viable, but SCOPE would have required additional resources to administer this. The University bookshop was interested but the infrastructure was not available.

Impact on publishers/rightsholders

Some publishers suffered from “eLib fatigue” as various projects made contact with them for copyright clearance permissions. This had both a negative and a positive effect. The negative effect was to overload publishers with requests for clearance to the extent that some put a stop to all permissions for a time. Others had a 6-12 month waiting period for clearance. This had a significant impact on project progress. Staff time on clearance was greater than anticipated and resource planning had to be revisited as time scales stretched.

The positive effect of the ‘eLib fatigue’ was to demonstrate tangibly to the publishers that there was a need to address the issue of copyright clearance for electronic use of materials and that this was a requirement of many different projects. If eLib had dealt with this initially through a central agency, it might have been easier for the publishers to block an approach from a single body. The volume and variety of requests could not all be refused.

Dealings with publishers have now been rationalised through the eLib Phase 3 HERON project, which provides a single source for pre-cleared materials, together with the HE Digitisation Project (HEDS). It was probably best that these evolved from lessons learned over time rather than being set up at the start of eLib.

A good working relationship was developed with the Copyright Licensing Agency (CLA) which has allowed two way dialogue on rights issues and genuine willingness to find solutions. This contrasts with the confrontational stance taken in the US where HE libraries were able to apply more pressure on publishers / rightsholders – they have huge buying power compared to UK HE libraries. SCOPE team members were invited to contribute to development of CLA’s new digitisation licence. As a result of experience with SCOPE and HERON, publishers appeared to shift their views on levels of security needed for this new type of licence. No special terms are now included which means better access for students.

The idea that SCOPE could by-pass the publisher was not borne out. SCOPE tried marketing in-house materials within one institution but did not have the resources to provide a more comprehensive marketing service.

Impact on library community

SCOPE has not been fully integrated in Stirling, nor in other consortium partners’ university library operations. Stirling library staff are under considerable pressure resulting from large budget cuts this year so there is limited time available for SCOPE, which is seen as a non-essential operation and one that threatens to introduce charges for student materials, something anathema to many librarians.

Library Representatives within the SCOPE consortium are having to deal with lots of other activities and have also found eLib demanding of time to an extent which was underestimated.

SCOPE was not used enough to make a big impact on electronic reserve / short loan operations or budgets, however the project did demonstrate in a “real-life” situation how electronic resources could be implemented and that they could be useful.

Impact on academic staff

SCOPE had to ensure continuity in order to persuade academics that it was worth the effort to participate, but was not in a position to guarantee the future service. It was difficult to motivate academic community

centrally and the project was heavily dependent on the enthusiasm of the library representatives in consortium members.

The impact depended on the discipline. Social sciences wanted to encourage students to use the coursepacks / electronic resource bank to read widely (whereas students wanted a complete support pack for essays and assignments). Engineering disciplines tended to use coursepacks as a direct back up to lecture notes.

SCOPE was generally well received by those who did get involved: 'good idea if it works', varying attitudes to passing costs on to students, and what was considered affordable.

In terms of the timing of course preparation, it was difficult to ensure that ODP timescales fitted with the academic timescales. Lecturers usually leave preparation of new courses to the summer months or quiet periods. SCOPE had to persuade them to prepare materials at a time suitable for the project, which was not always easy. On a large scale, this would imply new routines for academic staff and earlier preparation.

SCOPE made lecturers engage in debate over whether students should pay for course materials (those uncomfortable with student charging tended not to promote the SCOPE coursepacks actively). The project highlighted the fact that institutions had not yet formed policies for student charging. SCOPE helped to inform the institutional debate but did not resolve it.

SCOPE encouraged some academics to innovate and to see the benefits of sharing in-house course materials. It revealed that some academics are reluctant to share their course materials and sometimes even their reading lists with others because they consider their course design to be a competitive asset to the department and university.

Institutional engagement

In the final analysis, SCOPE did not influence investment decisions at HE senior management level. Libraries are not powerful enough in themselves to resolve the “big” issues which arose from eLib such as student charging and investment in IT infrastructures to support electronic resources.

A top down programme like eLib can cause tensions when it comes to integration with “normal” operations.

The extent of eLib integration within institutions is partly dependent on the structure within each HEI. It is important to recognise that HEIs differ considerably in their structures and procedures. As a result, it is difficult to implement Programme-wide or JISC level decisions.

The extent of institutional support varied partly according to the level of integration of the organisation within which the eLib work was carried out.

Bookseller's view of SCOPE

It was a “hot issue” for some time in The Bookseller with quite a lot of articles published – this is continuing with HERON.

SCOPE took place in an environment where booksellers were trying to come to terms with new trends / threats:

- what emphasis is put on students reading around their subject versus being given course notes which cover everything
- If trend towards Internet book retailers continues (campus booksellers losing up to 15% or turnover) then the role of the on-campus bookshop will certainly be threatened in the smaller institutions. So far many have survived because price increases are making up for the loss of volume

- Costs of printing for European market (as a run on to print for US market) are not that high in fact (for the top 10 international academic publishing houses) so producing electronic materials as a cheaper option was never such an issue

SCOPE could have had a greater impact on further education – in the FE sector there is more central production of modules/course material and fewer book sales. Schools also could have provided another market opportunity.

The drop in sales of course packs in years 2 and 3 surprised everyone. The attitude of teaching staff towards SCOPE was very important in ensuring sales (and was part of the cause of the loss of sales in years 2 and 3).

All the energy and impetus to get SCOPE packs together came from the project team.

Publishers were supportive of SCOPE – their agreement to provide content at low copyright cost helped to drive down the default CLA cost.

C.5 EEVL

C.5.1 Background

The EEVL (Edinburgh Engineering Virtual Library) project aimed to build a subject gateway for the HE and research community to facilitate high quality information resources in Engineering.

In 1994/5 engineering material was not very well covered on the Web. Structured access was needed to avoid time wasted browsing through many references of limited value. Human input remains crucial to this task because users need to access quality sources and there is no electronic means to assess the quality of sites at present. There has been a long running debate as to whether artificial intelligence will eventually make the Subject Based Gateway concept redundant, but this has certainly not arrived yet.

The engineering community tend not to have well developed information research and handling skills and look to the library to source information rather than find it themselves. Informal contacts and networks are used extensively as part of this process. Electronic journals in engineering are not numerous but there is evidence of a growing demand.

C.5.2 Operation and management

Involvement with Programme

Michael Breaks, the EEVL Project Director, was on the FIGIT committee and was therefore involved in the early design and planning of eLib Programme. This meant that the EEVL project kept close to the overall programme, particularly in the context of contributing to cultural change, which was not necessarily the case with all projects. Those involved at the programme level were a relatively close group who knew each other well from other activities. This could make it difficult for outsiders to become involved.

Project selection and management

The bidding team was familiar with the Programme design and the forthcoming call due to Michael Breaks' earlier involvement. The first bid was rejected as being "too modest", so a larger project proposal was resubmitted and then accepted. eLib encouraged the involvement of a consortium, the initial bid was local, involving only the Library and ICBL at Heriot Watt. The consortium approach has proved to be successful, gaining from the knowledge and creativity of the partners, as well as their input to identifying resources. Heriot Watt provided support in creating a model consortium agreement, although this was not done until later in the project.

Project management

Project management from programme level was found to be very hands-off, although the Programme Office was always there for advice / contact when needed. EEVL received one visit from The Programme Director during the project lifecycle.

The mechanism of project steering was by an Advisory Board and also from the consortium (3 meetings per annum). Local project meetings with the Institute for Computer Based Learning (ICBL) were held every 2 weeks. The Advisory Group "ran out of steam".

Staffing issues were challenging for the project, in particular how to retain staff employed on short term contracts. Two key staff left in year 1, both of whom were 100% funded to support the project. One additional person was recruited immediately. The project was able to do this without authorisation from the Programme Office, although they were notified of the change. This flexibility helped reduce delays to the project. Having the technical team on site has helped communications and efficiency of operations

eLib project management training was used and the concepts were found to be useful, although in practice it can be difficult to implement a “perfect” project management regime in a service environment. This is particularly difficult when much of the effort on the project is voluntary or “fitted in” with day to day library operations.

In terms of financial management, the project was free to spend its budget in the most appropriate way. Underspends have been carried forward. Flexibility has helped the project to stay responsive to changing circumstances, attend meetings at short notice, respond to promotional opportunities, recruit new staff and meet unexpected costs.

Running a project such as EEVL within an existing service can be problematic. There are benefits from being involved with operations but it is difficult to free up time for developments.

Evaluation activities were not included explicitly in the original call for tender and the effort required had to be covered by a separate tranche of funding (£3,000 for first evaluation in 1996). The guidelines on evaluation were thought to be useful and The Synthesis of Annual Reports, produced as part of the Tavistock evaluation activities was found to be a useful document.

Ariadne, another eLib project, was also found to be a useful communication device. EEVL have made regular contributions to this and it has been a useful way to see what others are doing.

Support elements

More central support in creating and managing mail lists would have saved projects time. Stronger marketing by Programme would also have been helpful to support project marketing efforts

A comparative study of subject gateways was commissioned by Programme but the results did not differ from what the subject gateway group had already proposed to eLib. The study was presumably required as an independent confirmation of how to go forward.

A more general guidance document on the basics of copyright would have been useful at an earlier stage. Across the Programme various projects have been negotiating IPR with publishers. Involvement with the Ei Village in the US prompted greater attention to copyright issues and the need to get clearance from all data sources.

An early visit by Nicky Ferguson from the SoSIG project (based at ILRT, Bristol), a social science equivalent of EEVL which had started earlier, provided significant support to the early operations of the project. Hearing about the problems encountered by SoSIG and how they tackled them was very useful and took EEVL up the learning curve more quickly. There was also contact with other subject gateway projects throughout eLib Phase 1 and 2.

C.5.3 Outcomes and achievements

Technical approach

EEVL preceded ROADS, the eLib developed software used by other eLib subject gateways, so ROADS was not used. A fast track, simple approach was taken with technology seen as an enabler for the project rather than the *raison d'être*. The original database software developed for EEVL is still in use. The interface has been redesigned once, with a further version (3.0) due to be released soon. A topic finder has been introduced to enable searching across subject gateways. Updating and checking data is an important issue which is very resource intensive

The technical aspects of EEVL have evolved constantly in response to user / project team feedback – this has meant a useful learning experience for the technical office on the project.

Project standards

The approach to standards was as follows:

- The UKOLN defined eLib standards were followed
- IAFA template was considered for data collection
- All software is broadly ROADS compliant to allow cross-searching within the subject bases information gateways

External environment / links with other projects

International links and links to companies/professional bodies have been established. ICBL have enabled the project to keep aware of ICT developments which may be relevant. The project team got training from the Netskills project, and participated in subject specific Netskills workshops, which was useful to update Web search knowledge and skills. Links with CTI, although limited initially, were further developed once a change of personnel led to more dialogue.

Extracts from annual reports/evaluation reports on outcomes/achievements:

Year 1 – 1 August 1995 to 31 July 1996
Change from general purpose WWW server to custom server improves design and speed of service
Development of database records – over 1800 records created in Y1 versus target of 2000 records for entire project duration
User friendly simple interface for EEVL
Services expanded to include Offshore Engineering Information Service and Engineering Newsgroup Archive
Positive feedback from user surveys – users found pilot service very easy to use and were impressed with its speed and simplicity; strong feeling that EEVL would be useful because it would save time and effort by providing access to a smaller number of quality engineering resources; some reservations about the number of resources available
Follow up interviews confirmed that users intend to use service again and remain positive about the service
Year 2 – 1 August 1996 to 31 July 1997
2 EEVL launches – 13 September and 13 December 1996– change from pilot to operational service with several technical improvements (eg. statistics, what's new, compatability with Internet Explorer, automatic checking of links) and uninterrupted service to users
Dissemination / publicity: <ul style="list-style-type: none"> - Conference papers for Library Association conference, International Association of Technological University Libraries (IATUL) 1997 conference, ASLIB Engineering Group, DTI Business Link seminar, IIS meeting - Articles in press : IATUL Proceedings, CTI Engineering newsletter, Library Hi-Tech, Ariadne, RoadWorks, Science & Engineering Network News, Electronic Library, Managing Information, Library Association Record, Vine, UKOLUG Newsletter, INTERNET RESOURCES, Software Echo, Sheet Metal Industries, Information Management Report, Information World Review, D-Lib Magazine, Times Higher Educational Supplement, Electrical Review, Electronics Weekly, Professional Engineering, The Engineer, Electronics World, Ground Engineering, IIE Solutions, Edinburgh Evening News, Opto and Laser Europe, Control and Instrumentation, Scottish Libraries, Professional Engineering
Target for records in database reached 4 months ahead of schedule
Recent Advances in Manufacturing (RAM) database successfully trialled on EEVL
University Science and Technology Librarians group (USTLG) Directory of Members hosted on EEVL to attract new users
EEVL workshops completed at 8 institutions – resulting feedback from users was overall positive with request for more resources
Awards:

<ul style="list-style-type: none"> - Scout Report selection - Library Hi-tech: "Best Library-Related Site" - Information World Review: "Best New Site" - Included in Top 50 UK Web sites
Formal evaluation completed by King and Moffat, October 1996 – most recommendations implemented in the full EEVL service
Year 3 – 1997/98
Uninterrupted provision of EEVL service
Increased usage of service
Awards: <ul style="list-style-type: none"> - <i>The Engineer's</i> Hotlink - <i>BizProWeb</i> Pick of the Day (Recent Advances in Manufacturing) - <i>New Scientist</i> Planet Science Hotspot - <i>Anbar Civil Engineering</i> Five Stars
New services – What's New; Monthly Top 25 most visited sites in the .uk domain; Monthly Top 25 most visited sites worldwide; EEVL's All Time 250 most visited sites worldwide, Engineering E-Journal Search Engine; Engineering Resources on the Web; Specialist Databases
More EEVL workshops
Performance of EEVL improved by splitting services across two servers
Press articles / coverage – IAUTL proceedings; Information World Review; CTI Engineering Newsletter; Library Hi-Tech; Ariadne; European Design Engineer; European Process Engineer; Science and Engineering Network News (SENN); Electronic Library; Managing Information; Program; Edinburgh BITS; Serials; The Amazing Internet Challenge; Structural Survey; Civil Engineering; Computing and Control Engineering Journal; IIE Solutions; EETimes Guide to Internet Engineering; Electronic Engineering Times; Telecomworldwire; Computer Aided Engineering; Electronics World; National Science Foundation Library Newsletter; Online and CD Notes; Newsbytes Pacific Internet Update; Internet Resources Newsletter; Scout Report; Link-up; Modern Machine Shop Online; Computers in Libraries; CSS Internet News; Precision Tool Maker; Manufacturing Computer Solutions; Logistics Focus; Control; M2 Communications.
Conference papers – IAUTL Conference, South Africa; Aslib Engineering Group, Leicester; Queensland University of Technology, Australia; TALISMAN Networked Information Resources for Teaching and Learning, University of Abertay; CTI Engineering, London; University Science & Technology Librarians Group, Manchester; IEE Tomorrow's World, Birmingham NEC; Postgraduate Research in Hydraulics and Hydrology in Scotland, Heriot Watt University
Year 4 – 1998/99
Usage increases to over 100,000 page views per month – continuous service provided
Integrated search service (EASIER) created in response to Evaluation Study 97/98
Successful joint for hosting of Compendex at EDINA
Successful bid to administer the Hub for Engineering, Computing and Mathematics (EMC)
Over 4,500 resources (compared to 3,400 at end of Year 3)
Search interface re-designed
EEVL Choice Sites made public
Ranking search results in Catalogue
6 EEVL workshops
Shared classification scheme developed with consortium at University of Queensland to allow more effective cross-searching and browsing
Conference papers: <ul style="list-style-type: none"> - UKOLUG conference – Engineering Information Sources, Edinburgh - IMESH Workshop, Warwick - UKOLUG, Leeds - Bibliotecas Universitarias em Consorcio, University of Aveiro, Portugal

- International World Wide Web Workshop, Canada
- Cataloguing and Indexing Group in Scotland, Napier University
- Online Information '98
- Waves of Change Conference, Gladstone, Queensland, Australia

Press articles:

Aslib Proceedings; Master Builder; The Guardian Online; Design Engineering; Times Higher Education Supplement; Best Bet Internet, American Library Association; INFOCUS; Ariadne; Serials; Newsagent; Interlending and Document Supply; The Library Association Record; Computers in Libraries; Online and CD Notes; Managing Information; Information World Review; Industrial Technology

C.5.4 Users and impacts

Promotional strategy

Promotion was opportunistic. A wide mix of promotional activities were used to raise awareness including T shirts, posters, post-it notes, publications in journals, magazines and newspapers, conference papers, links on the Web to relevant sites.

The establishment of a network of librarian gatekeepers has proved beneficial in order to counter lack of direct response from the academic community.

Dissemination activities via the press and conference papers have produced an impressive amount of published articles. Feedback has been positive for those giving conference papers. Within Nottingham Trent University, a partner in the project, EEVL is often presented to international conferences as a showcase example of NTU activities.

Users

Overall uptake by users has been disappointing. Academic staff have not changed the way that they prepare and deliver teaching. The perception of the team is that this is an organisational / cultural issue which will only change over a longer period. Academic colleagues have been contacted at various stages in the project but have not come forward to get involved in the project or provide feedback in any significant measure.

In Nottingham Trent University, the academic response to EEVL was summarised as “very interesting but no time to get involved”.

EEVL provided data for the British Engineering Centre, part of Ei's Engineering Village, in order to attract end users to the site and there is a strategic plan for student use.

The project has gathered a significant amount of usage data. A proposal was submitted to CEI/ESRC in collaboration with SoSIG for a proposal to analyse this data and find out more about search strategies. This was not awarded probably due to the timing of proposal at the end of Phase 2.

Value / Benefits

The consortium has been the most successful part of the project. The link between library and ICBL has worked well. There has been better interaction with researchers. EEVL has allowed the library to get a better idea of what engineering researchers need (but not necessarily how they go about finding information). There has also been interaction with publishers and suppliers of data. The role with JISC is now stronger as a result of eLib – the Programme has “opened doors” and has been good for the information community

Learning about the innovation process and project management was an important benefit to the project team in terms of personal development.

Institutional engagement and the impact of EEVL on Heriot Watt as a whole has been evident in small measure. For example, the library has been included in a proposal for funding submitted by the Dept of Mechanical Engineering to EPSRC. This is thought to be the first time the library has been included with an academic dept funding proposal.

The ability of library to bring in additional revenue has helped change the internal perception of the library, it is no longer regarded as just a cost centre. The experience of eLib Phases 1 and 2 has helped EEVL to evolve to deliver a better service.

EEVL was one of the first eLib projects to offer a fully operational service. It is involved with the TalisMAN project (Metropolitan Area Network). Hosting the USTLG (University Science and Technology Librarians Group) directory has helped provide critical mass for the site, increase usage and provide better networking via EEVL for the Engineering Community. There has been a successful transition into Phase 3 and thereafter to a new project - RDN.

There is still a need for a better understanding of information search strategies. More links with larger professional associations would have been beneficial.

Impact of eLib programme

Not surprisingly, the impact of EEVL has been much greater in the engineering community than the impact of the eLib programme as a whole.

The eLib experience has left the library better informed for IT decisions.

APPENDIX D: LIST OF ACRONYMS

ACORN	Access to COurse Readings via Networks
ADAM	Art, Design, Architecture & Media
AHDS	Arts and Humanities Data Service
ANR	Access to Network Resources
BLDSC	British Library Document Supply Centre
BLPES	British Library of Political and Economic Science
BLRIC	British Library Research and Innovation Centre
BUBL	BULLETIN Board for Libraries
CAIN	Conflict Archive on the Internet
CALIM	Consortium of Academic Libraries In Manchester
CCS	Communication and Cultural Studies
CEI	Committee for Electronic Information
CINE	Cartoon Images for Network Education
C&IT	Communication and Information Technology
CLA	Copyright Licensing Agency
CNI	Coalition for Networked Information
COMPENDEX	the joint COMPuterized ENgineering InDEX
CTI	Computers in Teaching Initiative
DIAD	Digitisation in Art and Design
DLI	Digital Libraries Initiative
DNER	Distributed National Electronic Resource
ECTOC	Electronic Conference on Trends in Organic Chemistry and Cyclical Chemistry
EDD	Electronic Document Delivery
EDDIS	Electronic Document Delivery -The Integrated Solution
EEVL	Edinburgh Engineering Virtual Library
eLib	Electronics Libraries initiative
ERCOMS	Electronic Reserve Copyright Management System
ERIMS	Electronic Readings in Management Studies
ESPERE	Electronic Submission & Peer Quality Review
ESRC	Economic and Social Research Council
FIDDO	Focused Investigation of Document Delivery Options
FIGIT	Follett Implementation Group for Information Technology
HEDS	Higher Education Digitisation Service
HEFC	Higher Education Funding Council
HEI	Higher Education Institution
HELIX	Higher Education Library for Image eXchange
HUSAT	Human Sciences and Advanced Technology Research Institute
IAFA	Internet Anonymous FTP Access
IC	Imperial College, London
ICBL	Institute for Computer Based Learning
ICT	Information and Communications Technology
ILL	Inter Library Loan
ILRT	Institute for Learning and Research Technology
IMPEL2	Impact on People of Electronic Libraries
IPR	Intellectual Property Rights
ISC	Information Systems Committee
ISSC	Information Services Sub-Committee
JCEI	JISC Committee for Electronic Information
JEDDS	Joint Electronic Document Delivery
JIDI	JISC Image Digitisation Initiative
JILT	Journal of Information, Law and Technology
JISC	Joint Information Systems Committee

KCL	King's College, London
LAMDA	London And Manchester
LIC	Library and Information Council
LIC	Library and Information Commission
LISC	Library and Information Services Council
LSE	London School of Economics
MAU	Monitoring and Advisory Unit
MIDRIB	Medical Images: Digitised Reference Information Bank
MLAC	Museums, Libraries and Archives Council
MODELS	MOving to Distributed Environments for Library Services
MPSWG	Moving Pictures and Sound Working Group
NESLI	National Electronic Site Licensing Initiative
NSF	National Science Foundation
OCR	Optical Character Recognition
ODP	On-Demand Publishing
OMNI	Organising Medical Networked Information
OUP	Oxford University Press
PA	Publishers Association
PATRON	Performing Arts Teaching Resources Online
PDF	Portable Document Format
PO	Programme Office
PPT	Parallel Publishing for Transactions
PSLI	Pilot Site Licensing Initiative
QA	Quality Assurance
QUIPS	Quick Information for Part-time Students
RAE	Research Assessment Exercise
RDN	Resource Discovery Network
ResIDe	Electronic reserve for UK Universities
ROADS	Resource Organisation And Discovery in Subject based services
RSLP	Research Support Libraries Programme
RUDI	Resource for Urban Design Information
SBG	Subject Based Gateways
SCONUL	Standing Conference of National and University Libraries
SCOPE	Scottish Collaborative On-demand Publishing Enterprise
SEREN	Sharing of Educational Resources in an Electronic Network in Wales
SOSIG	Social Science Information Gateway
SPIRS	SuperJanet Project on Information Resources
TAPin	Training and Awareness Programme in networks
TLTP	Teaching and Learning Technology Programme
UCL	University College, London
UKOLN	UK Office for Library and Information Networking
USTLG	University Science and Technology Librarians Group
VC	Vice Chancellor
WoPEc	Working Papers in Economics

APPENDIX E: PROJECT SUMMARY INFORMATION

Project Name	Description
ACORN	This project aims to develop a transferable model for the whole process of providing electronic access to course readings. Working initially in the areas of engineering, geography and LIS, ACORN plans to demonstrate a model using third party agents for copyright clearance and digitisation of text
ADAM	A UK based information gateway giving access to the Art, Design, Architecture and Media resources on the Internet and providing links to the on-line information services.
Ariadne	A monthly newsletter in parallel print and electronic form dealing with Internet resources and services in general and the eLib Programme in particular
Biz/ed	On-line access to business and economics resources on the WWW including case studies and statistics
CAIN	The project aims to develop a collaborative multimedia database of the resources relevant to teaching learning in conflict studies with particular reference to the Northern Ireland experience
CATRIONA II	An investigation of the management of electronic information resources. Their value in and beyond institutions and associated infrastructure and policy issues.
CINE	A project intended to create animated materials for explanation and understanding of concepts in a networked information environment
CLIC	A parallel electronic version of an established journal - Chemical Communications
CogPrints	This project will make available pre-prints and technical reports in electronic form, in the Cognitive sciences, it is modelled after Paul Ginsprag's Physics Eprint archive
DeLiberations	An interactive magazine with an associated archive (database) to support library staff, educational developers and computing staff concerned with the innovative design and delivery of courses
DIAD	To provide access to core journals in art and design, which have been subject to mutilation and loss
DIGIMAP	Aims to identify and access service models by which staff and students in HE can access OS map digital map data. The project continues work already underway in the University of Edinburgh
EDBANK	To identify and document efficient methods of creating and running a database of digitised teaching materials to support remote students. Resource material produced will be available to other institutions to work into their own situation.
EDDIS	To produce an integrated end user driven identification, holdings discovery and electronic supply service for document delivery
EducationOn-Line	A project to establish a Thesaurus indexed database of grey literature in the field of education and training accessible via the WWW. The system will provide an electronic forum for comments on documents as a form of 'peer review'
EduLib	A national programme to identify and provide the skills needed by librarians in fulfilling the training roles identified in the Follett report
EEVL	A project to build a gateway for the HE and research community to facilitate access to high quality information resources in engineering
eJ & Learned Societies	To define the parameters required for the use of electronic networks by smaller learned society publishers
EJEL	An internationally refereed journal dealing with substantive law implications of IT and implications of IT for legal practice and legal education
eOn	A demonstration project for the delivery of on-demand publishing to HE students and staff which makes use of materials produced by the Open Learning Foundation
ERCOMS	ERCOMS will deliver an Electronic Reserve Copyright Management System capable of working with different electronic reserve management and providing full tracking facilities
ERIMS	To provide reading materials in electronic form to a cross section of users in management studies
eSeminars in History	The Institute's seminar programme (Institute of Historical Research, University of London) in an electronic form and to produce a new journal available to all HE institutions
ESPERE	The project plans the development and implementation of a system permitting network based review of articles submitted to UK learned society publishers. The project will focus primarily on the problems associated with non textual material within scientific articles and monographs
eStacks	Software tools to support an electronic community, initially in the area of logic and theatrical computer science
EuroText	A national electronic resource bank of learning materials relating to the European Union

FIDDO	Analysis of document delivery models, evaluation of impact on library policies and operations and impact on end users.
Formations	Formations is a pre-print database in the areas of cultural policy, media studies and performance theory. The project proposes creating an interactive connection between editorially moderated newsgroups and a grey electronic journal
HELIX	This project aims to develop a substantial body of image resource context based on distributed image banks held in the partner institutions. Access is via SuperJANET. The project is based on the methods and standards developed for ELISE and ELISE II
IHR-Info	Development of the Institute's subject based information server for History
IJ of Early Journals	To provide expanded access to a realistic sample of 18 th and 19 th century journals, including Gentleman's magazine, Notes and Queries and the Builder
IMPEL2	Monitoring organisational and cultural change during the implementation of eLib
InfoBike	Services which allow users to have browsing and reading access to a large range of documents in electronic form for which their institutions have paid licence fees
Internet Archaeology	The aim of the project is to establish an international electronic journal for archaeology
JEDDS	To create an ARIEL toolkit for integration into their inter-lending systems, and a version of ARIEL using MIME transport rather than FTP
LAMDA	A document delivery service for journal articles to the 21 HEFCE funded libraries in the London area and the five CALIM libraries in Manchester
MIDRIB	MIDRIB plans to collect a comprehensive collection of medical images for use in teaching and research and make this available nationally, across networks via the Internet (WWW)
MODELS	Developments of blueprints for distributed library services, provision of a focus for sharing experience and knowledge, informing policy makers and funding bodies and raising awareness in the library and information communities
NetLinks	Create a framework for professional development and training to enable library professionals to acquire the knowledge and skills to successfully develop networked learner support in a wide range of institutions
NetSkills	QA project to provide a comprehensive national network skills training programme aimed at shifting the culture within HEIs towards awareness and widespread use of networked information resources
NewsAgent	NewsAgent for libraries provides an innovative information and current awareness service for the library and information science community
OD Publishing in Humanities	A pilot on-demand publishing project aimed at students in the School of Media, Critical and Creative Arts
OJF	To investigate novel ways of integrating journals that are available electronically over the network with other journals and information resources using the capabilities of open hypermedia systems
OMNI	To build a gateway to facilitate access to high quality information about clinical, research and management aspects of health and biomedicine
PATRON	This project will develop a system to store and deliver multimedia short term loan material in music (CDs, videos and music scores) on-demand to students over a broadband network
Phoenix	A project concerned with the implementation of electronic storage and print techniques to supply text to students
PPT	To undertake the development and implementation work for a journal with a range of particular problems of representation, a readership and a range of authors unfamiliar with electronic publishing
QUIPS	QUIPS examines the issues of digitising substantial parts of student reserve collections
ResIDe	This project aims to develop a pilot electronic reserve system aimed at students in the Faculty of the Built Environment. The project provides a facility for the management of the flow of documents and data in and out of the system, as well as a system for monitoring copyright.
ROADS	A project to investigate the creation, collection and distribution of resource descriptions to provide a transparent means for searching and accessing resources
RUDI	To develop sufficient multi-media resources for research and teaching in urban design
SCOPE	A project to build an electronic resource bank of articles and book chapters in key areas to demonstrate copyright clearance and logistical issues of course reader publishing and on-line viewing

SEREN	A geographically based document delivery service by a consortium of libraries in an all Wales context
SKIP	A project to identify and evaluate the impact of IT on the knowledge and skills base requirements of library staff in HE
SoSIG	An information gateway for the social sciences
SRO	The development of an electronic journal in Sociology using multimedia delivery formats and the provision of training to enable users to maximise their use of the journal
SuperJournal	An extension of the original SuperJournals project (which was funded by the British Library) to develop and test an infrastructure and tools for refereeing electronic journal publishing
TAPin	A project aimed at improving the quality of academic teaching and research by enhancing the expertise of academic staff in the appropriate exploitation of networked information resources
WOPEC	The aim of this project is to create a metadata archive for working papers in the area of economics. Documents will be searched, accessed and delivered via the Internet. The project plans to use the whois++ protocol.

